

KELLY AFB TX

Latitude = 29.38 N

Longitude = 98.58 W

Period of Record = 1967 to 1996

WMO No. 722535

Elevation = 689 feet

Average Pressure = 29.25 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	102	74	87	7.9	SE
0.4% Occurrence	99	75	92	7.9	SE
1.0% Occurrence	97	74	94	8.1	SSE
2.0% Occurrence	95	74	98	8.0	SSE
Mean Daily Range	20	-	-	-	-
97.5% Occurrence	36	32	22	5.2	N
99.0% Occurrence	32	29	18	6.0	N
99.6% Occurrence	28	25	14	6.3	N
Median of Extreme Lows	21	18	9	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	81	89	150	8.4	SE
0.4% Occurrence	79	89	137	8.2	SSE
1.0% Occurrence	78	88	131	8.2	SSE
2.0% Occurrence	77	88	126	8.2	SSE
	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	151	84	0.97	9.3	SE
0.4% Occurrence	140	84	0.90	8.7	SE
1.0% Occurrence	136	82	0.88	8.3	SSE
2.0% Occurrence	134	79	0.88	5.8	SSE
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		341	2178	2091	3952

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	4.3	90	6.0 + 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 (#)
71.2	0	4	11

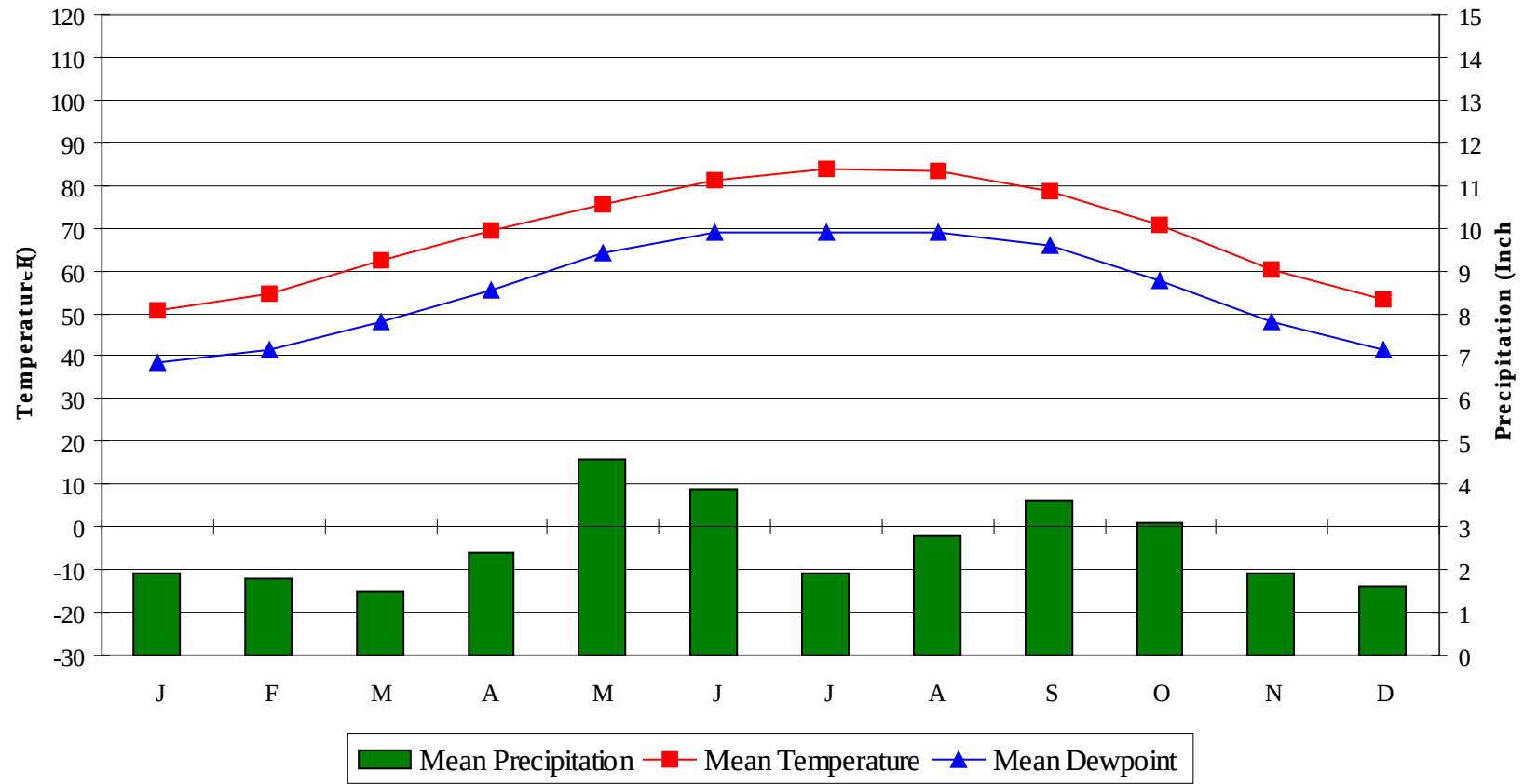
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

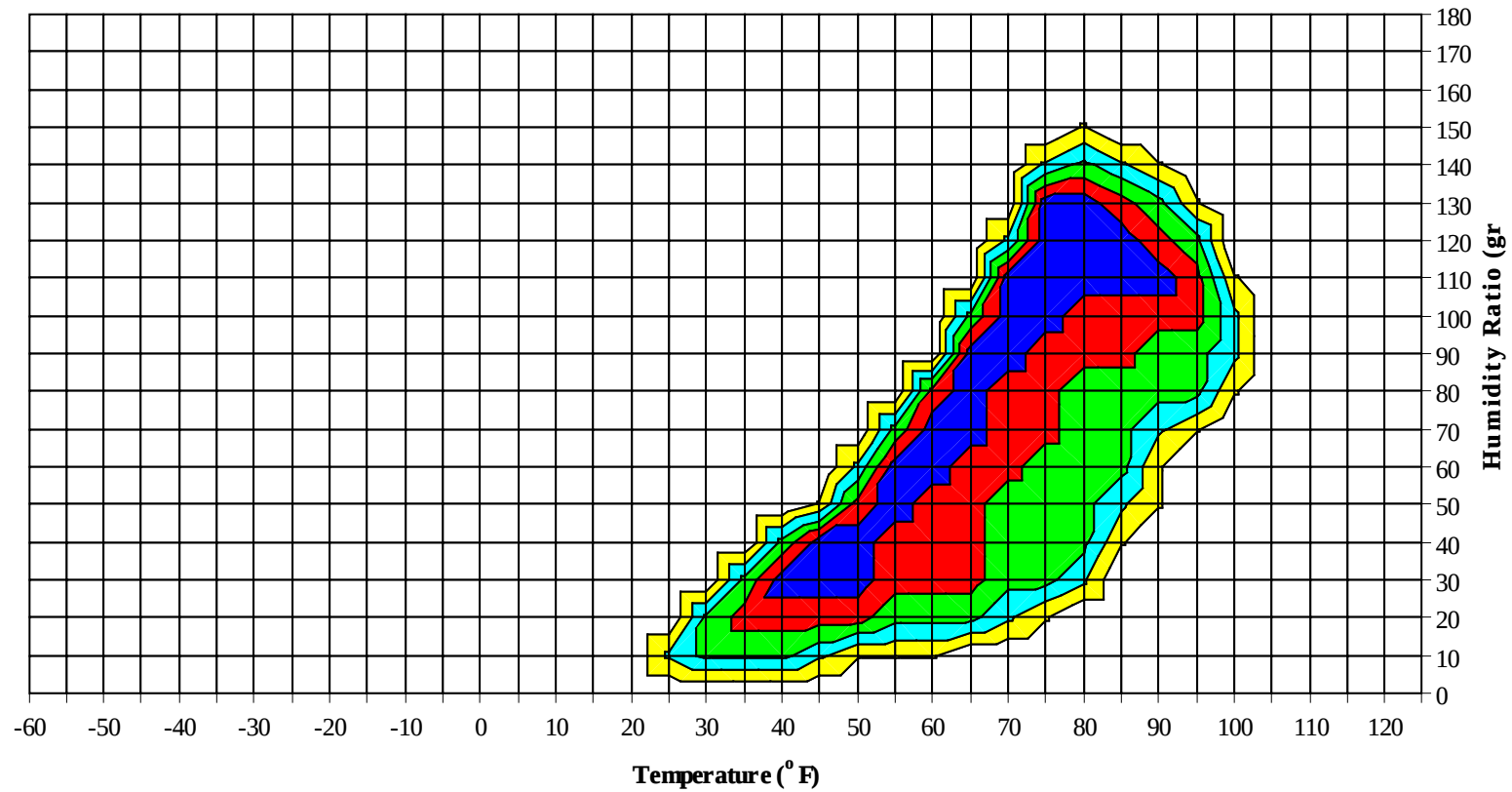


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Long Term Psychrometric Summary

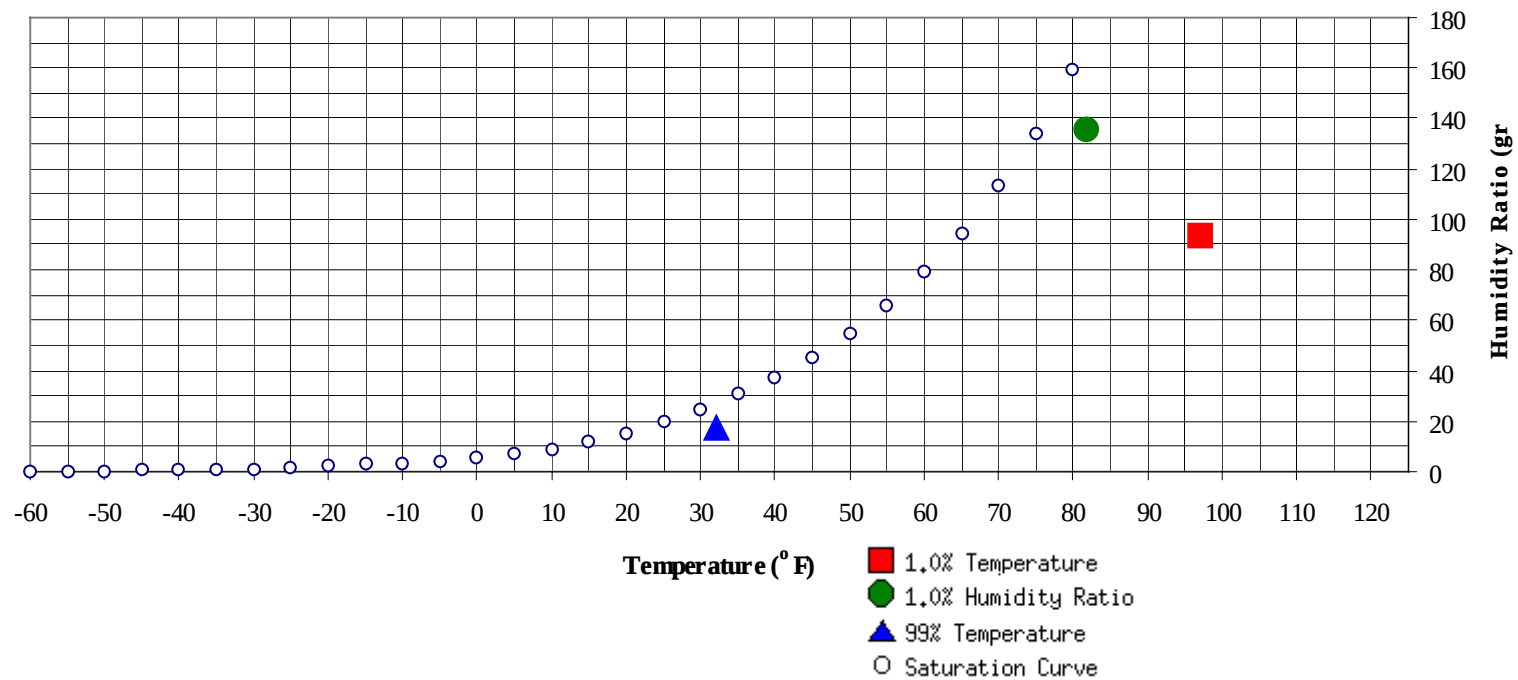


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values

	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	32	17.8	10.4		135.8	81.7	76.8	75	40.9

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	97	93.9	74.4	38.1

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Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)**Period of Record = 1967 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		
105 / 109															
100 / 104							0		0	63.0					
95 / 99							0	0	0	62.1		0	0	0	63.6
90 / 94		0		0	60.5		1	0	1	63.6		2	1	3	64.3
85 / 89		1	0	1	59.7		1	0	2	62.4		6	3	8	65.3
80 / 84		2	1	2	61.6		5	2	8	62.0		18	9	28	65.4
75 / 79		8	3	12	62.4		15	7	22	61.5	0	35	21	56	63.8
70 / 74	1	20	10	31	61.2	0	24	16	41	59.9	14	49	44	108	62.6
65 / 69	11	29	21	61	59.4	13	35	32	79	58.7	39	49	52	140	59.9
60 / 64	14	34	29	77	54.9	23	36	36	94	55.3	46	37	45	127	55.7
55 / 59	20	36	38	94	50.8	28	30	36	94	51.1	42	23	32	97	50.9
50 / 54	32	35	42	109	46.7	35	30	38	103	46.5	38	14	20	72	46.5
45 / 49	41	31	39	110	42.4	39	21	25	85	42.3	33	8	12	53	42.4
40 / 44	46	28	34	108	37.8	37	14	18	70	38.2	21	5	6	32	38.0
35 / 39	40	15	20	75	33.7	28	6	7	42	33.6	11	1	2	14	33.2
30 / 34	27	6	9	42	28.9	13	3	4	20	29.1	4	0	0	5	28.3
25 / 29	11	2	3	16	24.5	6	2	2	9	24.5	1	0		1	23.8
20 / 24	4	0	0	5	19.8	2	0	0	2	20.8	0			0	18.3
15 / 19	1	0		1	15.9	0			0	17.2					
10 / 14															
5 / 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.

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Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)**Period of Record = 1967 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		
105 / 109												0	0	0	73.8
100 / 104		0	0	0	70.6		1	0	1	74.5		4	2	6	75.6
95 / 99		1	1	1	68.8		5	3	8	74.2		16	10	26	75.4
90 / 94		6	2	9	68.6		18	9	27	74.2		54	29	83	75.3
85 / 89		19	10	29	68.6	0	43	25	68	72.7	0	72	48	121	74.5
80 / 84		42	25	67	67.3	3	71	52	126	71.1	23	62	68	153	73.5
75 / 79	7	56	46	109	66.3	50	61	71	182	70.0	123	25	59	207	72.3
70 / 74	50	54	61	164	65.1	90	33	55	179	67.3	69	6	19	95	69.0
65 / 69	61	32	46	140	61.4	59	12	25	96	63.1	18	1	3	23	64.4
60 / 64	46	17	27	90	56.3	29	3	7	39	58.3	5	0	0	5	58.9
55 / 59	36	8	14	58	51.8	12	0	1	14	53.4	1			1	54.7
50 / 54	22	3	5	31	47.2	4	0	0	4	49.4					
45 / 49	12	1	2	14	42.7	1			1	46.5					
40 / 44	5	0	1	6	38.5										
35 / 39	1			1	33.1										
30 / 34	0			0	30.2										
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)**Period of Record = 1967 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		
105 / 109							0		0	76.5					
100 / 104		7	4	11	74.0		5	2	7	74.5		0	0	1	73.7
95 / 99		39	23	63	74.3		42	23	65	74.5		11	4	14	74.3
90 / 94		73	42	115	74.6		73	40	114	74.6		43	17	60	74.3
85 / 89	0	67	55	122	74.4	0	67	53	120	74.1	0	66	36	102	73.2
80 / 84	30	48	72	149	73.7	32	46	73	152	73.8	10	62	63	135	72.4
75 / 79	171	11	46	228	72.8	158	11	47	217	72.9	102	35	68	205	71.8
70 / 74	45	2	6	54	69.8	50	3	8	62	69.9	71	14	32	117	67.7
65 / 69	1		0	2	64.2	6	0	0	7	65.3	24	6	12	41	61.6
60 / 64						0			0	57.9	16	2	6	24	56.7
55 / 59											12	0	2	15	53.2
50 / 54											4	0	0	4	49.3
45 / 49											0			0	45.0
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1967 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		
105 / 109															
100 / 104															
95 / 99		1	0	1	68.2										
90 / 94		9	2	11	71.8		1		1	65.8					
85 / 89		32	11	43	71.2		3	0	3	69.5		0		0	62.2
80 / 84	2	58	31	90	69.3		18	4	22	68.5		3	0	3	65.0
75 / 79	23	57	56	136	68.3	2	36	17	56	66.8		13	4	17	64.7
70 / 74	50	45	57	152	65.5	23	43	35	101	64.6	4	29	16	49	62.9
65 / 69	55	25	42	121	61.2	24	37	37	98	60.1	22	35	28	85	60.7
60 / 64	45	12	26	83	56.7	33	36	42	111	55.6	18	38	33	89	55.2
55 / 59	34	6	14	54	52.4	39	29	37	104	51.2	27	40	40	107	50.9
50 / 54	24	3	7	34	48.2	35	19	31	85	46.5	34	33	43	110	46.5
45 / 49	11	1	2	13	43.9	32	12	19	63	42.5	40	27	38	105	42.3
40 / 44	4	0	1	5	39.1	24	5	11	41	38.5	37	17	26	80	37.9
35 / 39	1		0	1	34.7	18	2	4	24	34.2	37	7	13	57	33.6
30 / 34	0		0	0	29.9	8	0	1	9	30.2	18	3	5	26	28.8
25 / 29	0			0	26.7	2		0	2	25.3	6	1	2	9	23.7
20 / 24						0		0	0	21.8	3	1	1	5	18.7
15 / 19											1	0	0	2	14.6
10 / 14											0	0		0	9.8
5 / 9											0			0	6.0

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Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)**Period of Record = 1967 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		
105 / 109		0	0	0	74.5
100 / 104		17	10	27	74.4
95 / 99		115	63	178	74.4
90 / 94		280	143	422	74.4
85 / 89	1	375	242	618	73.3
80 / 84	100	435	400	935	71.7
75 / 79	636	365	446	1446	70.4
70 / 74	469	323	361	1153	65.9
65 / 69	334	261	297	893	60.8
60 / 64	274	214	251	740	55.9
55 / 59	252	173	215	639	51.3
50 / 54	227	138	187	552	46.7
45 / 49	210	100	136	445	42.4
40 / 44	175	71	96	342	38.0
35 / 39	136	31	47	214	33.7
30 / 34	70	13	19	103	29.0
25 / 29	26	5	7	38	24.3
20 / 24	10	2	1	12	19.6
15 / 19	2	0	0	3	15.2
10 / 14	0	0		0	9.8
5 / 9	0			0	6.0

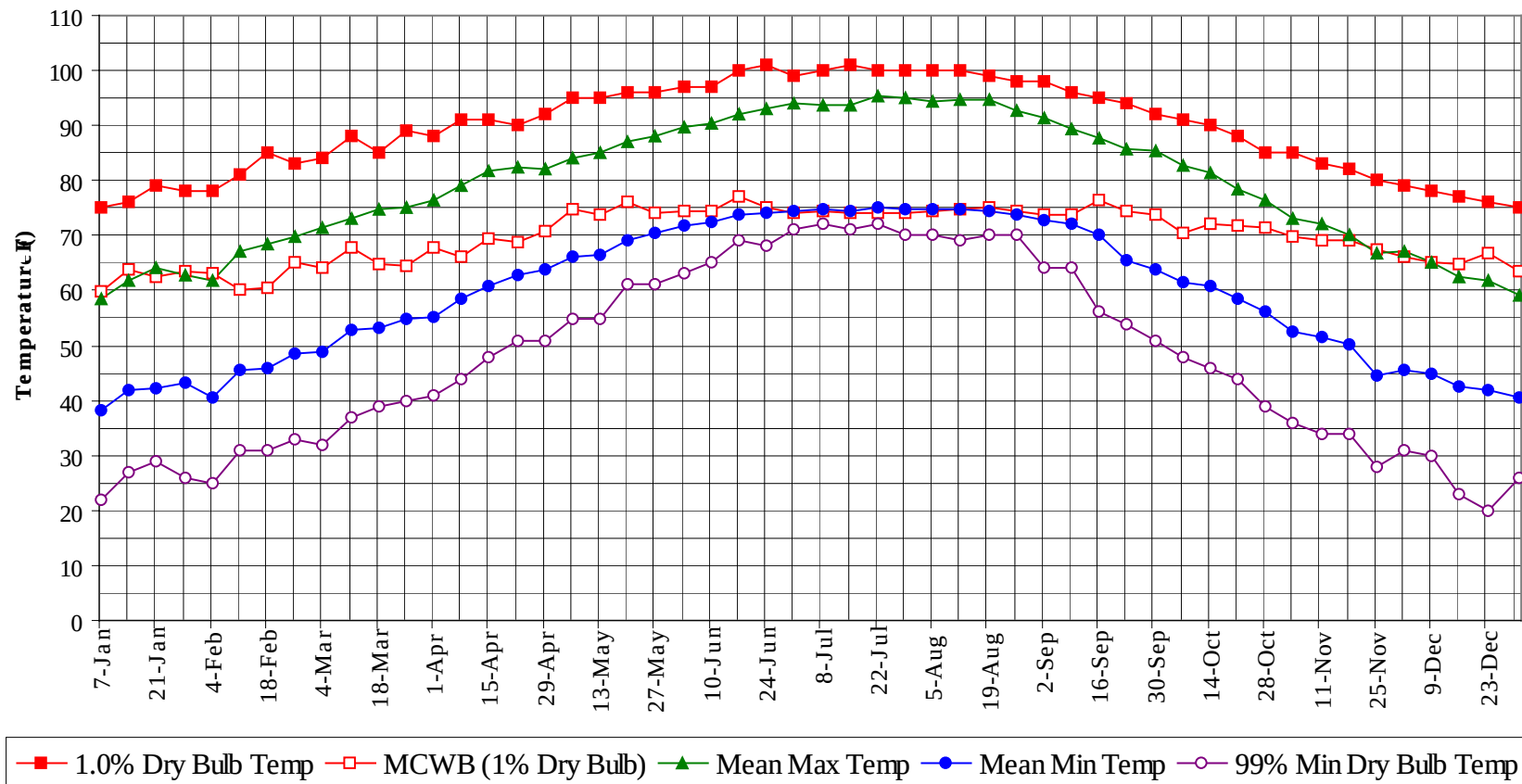
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

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Annual Summary of Temperatures

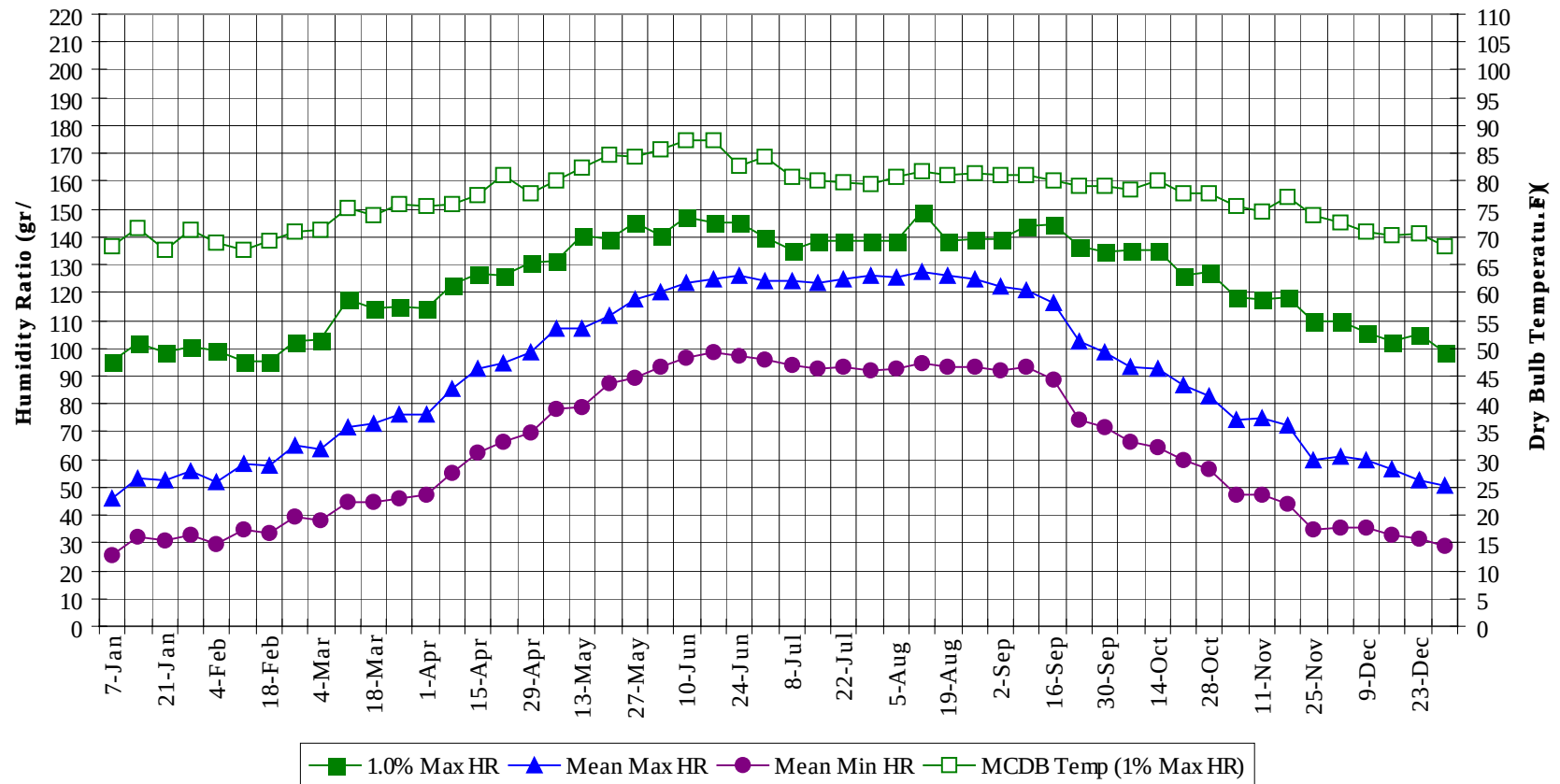


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Long Term Humidity and Dry Bulb Temperature Summary



KELLY AFB**TX****WMO No. 722535****Long Term Dry Bulb Temperature and Humidity Summary**

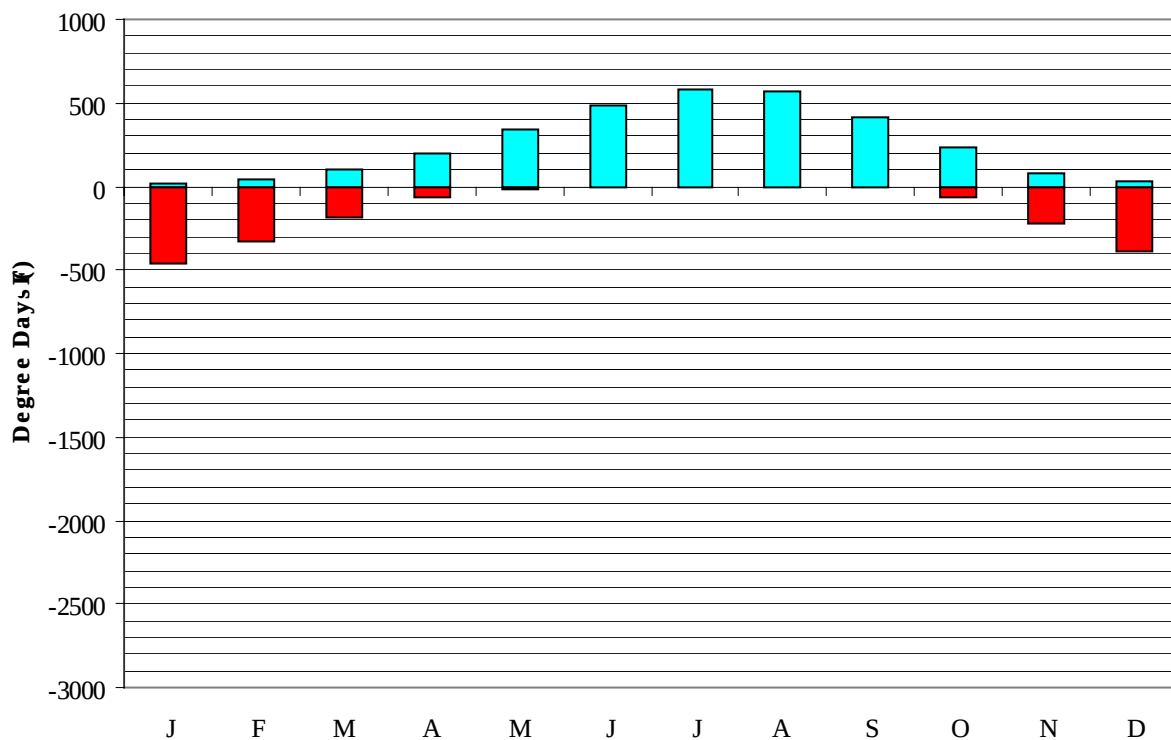
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	75.0	59.8	58.4	38.4	22.0	95.2	68.2	46.0	25.3
14-Jan	76.0	63.9	61.9	41.8	27.0	101.5	71.5	53.4	32.1
21-Jan	79.0	62.5	64.1	42.3	29.0	98.7	67.6	52.8	30.9
28-Jan	78.0	63.4	62.8	43.3	26.0	100.8	71.3	55.6	33.0
4-Feb	78.0	63.2	61.9	40.7	25.0	99.4	69.1	51.6	29.6
11-Feb	81.0	60.1	67.2	45.5	31.0	95.2	67.7	58.4	34.5
18-Feb	85.0	60.5	68.6	46.0	31.0	95.2	69.1	57.7	33.2
25-Feb	83.0	65.2	69.7	48.4	33.0	102.2	71.1	64.7	39.6
4-Mar	84.0	64.1	71.5	48.8	32.0	102.9	71.3	64.0	38.0
11-Mar	88.0	67.8	73.3	53.0	37.0	117.6	75.3	71.7	44.4
18-Mar	85.0	64.8	74.8	53.3	39.0	114.1	74.0	72.8	44.6
25-Mar	89.0	64.5	75.1	54.8	40.0	114.8	75.9	76.0	46.3
1-Apr	88.0	67.8	76.6	55.1	41.0	114.1	75.4	76.5	47.1
8-Apr	91.0	66.0	79.0	58.5	44.0	122.5	75.8	85.2	55.4
15-Apr	91.0	69.3	81.8	60.9	48.0	126.7	77.7	92.4	62.6
22-Apr	90.0	68.9	82.5	62.7	51.0	126.0	81.1	94.5	66.2
29-Apr	92.0	70.9	82.2	63.7	51.0	130.9	77.8	98.8	69.4
6-May	95.0	74.7	84.2	66.2	55.0	131.6	80.2	106.8	78.2
13-May	95.0	73.9	85.2	66.6	55.0	140.7	82.3	107.4	78.9
20-May	96.0	76.2	87.1	69.0	61.0	139.3	84.8	111.9	87.2
27-May	96.0	74.1	88.1	70.3	61.0	144.9	84.4	117.9	89.5
3-Jun	97.0	74.5	89.9	71.7	63.0	140.7	85.7	119.9	93.3
10-Jun	97.0	74.5	90.4	72.4	65.0	147.0	87.3	123.4	96.9
17-Jun	100.0	77.3	92.0	73.8	69.0	144.9	87.3	124.5	98.5
24-Jun	101.0	75.0	93.0	74.0	68.0	144.9	82.7	125.8	97.4
1-Jul	99.0	74.2	94.1	74.6	71.0	140.0	84.3	124.4	96.0
8-Jul	100.0	74.3	93.7	74.7	72.0	135.1	80.7	124.3	93.7
15-Jul	101.0	74.0	93.6	74.6	71.0	138.6	80.2	123.7	92.5
22-Jul	100.0	74.1	95.4	75.0	72.0	138.6	79.9	125.0	93.1
29-Jul	100.0	74.1	95.1	74.7	70.0	138.6	79.6	125.9	91.6
5-Aug	100.0	74.4	94.5	74.7	70.0	138.6	80.6	125.5	92.8
12-Aug	100.0	74.9	94.8	74.8	69.0	149.1	81.7	127.6	94.3
19-Aug	99.0	75.0	94.6	74.4	70.0	138.6	81.1	126.0	93.2
26-Aug	98.0	74.4	92.6	73.7	70.0	139.3	81.4	124.5	93.4
2-Sep	98.0	73.7	91.4	72.7	64.0	139.3	81.2	122.1	91.9
9-Sep	96.0	73.6	89.4	72.0	64.0	143.5	81.1	121.1	93.2
16-Sep	95.0	76.4	87.9	70.2	56.0	144.2	80.1	116.6	88.9
23-Sep	94.0	74.4	85.9	65.5	54.0	136.5	79.1	102.4	74.5
30-Sep	92.0	73.7	85.3	63.9	51.0	134.4	79.1	98.2	71.4
7-Oct	91.0	70.4	82.8	61.6	48.0	135.1	78.6	93.4	66.1
14-Oct	90.0	72.1	81.5	61.0	46.0	135.1	80.2	92.9	64.5
21-Oct	88.0	71.8	78.4	58.6	44.0	126.0	77.8	86.9	59.5
28-Oct	85.0	71.5	76.3	56.1	39.0	127.4	77.9	82.6	56.2
4-Nov	85.0	70.0	73.2	52.4	36.0	118.3	75.5	74.5	47.2
11-Nov	83.0	69.1	72.0	51.4	34.0	117.6	74.6	74.6	47.6
18-Nov	82.0	69.0	70.0	50.2	34.0	118.3	77.3	72.0	44.0
25-Nov	80.0	67.6	66.9	44.6	28.0	109.9	73.8	59.6	34.5
2-Dec	79.0	66.1	67.0	45.4	31.0	109.9	72.7	60.8	35.4
9-Dec	78.0	65.1	65.2	44.8	30.0	105.7	71.1	60.0	35.2
16-Dec	77.0	64.7	62.5	42.6	23.0	102.2	70.4	56.5	33.0
23-Dec	76.0	66.9	61.9	41.8	20.0	105.0	70.7	52.5	31.4
31-Dec	75.0	63.5	59.0	40.5	26.0	98.7	68.3	50.7	28.7

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



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

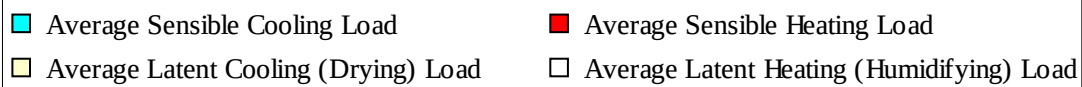
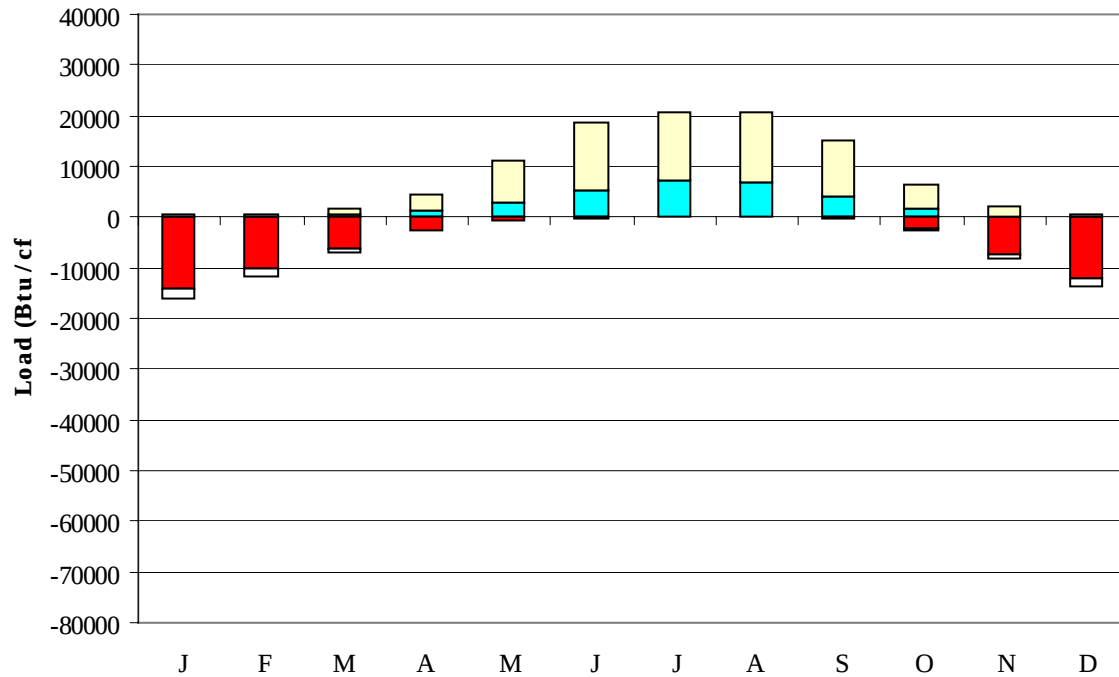
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	21	466
FEB	37	325
MAR	99	180
APR	198	64
MAY	343	12
JUN	489	1
JUL	578	0
AUG	570	0
SEP	416	10
OCT	235	62
NOV	82	224
DEC	31	390
ANN	3098	1734

KELLY AFB

TX

WMO No. 722535

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	44	-14225	299	-1915
FEB	135	-10249	310	-1336
MAR	462	-6163	1419	-706
APR	1259	-2461	3207	-234
MAY	2837	-587	8419	-9
JUN	5408	-66	13149	0
JUL	7063	-1	13485	0
AUG	6939	-5	13807	0
SEP	4151	-449	10928	-1
OCT	1664	-2379	4779	-90
NOV	302	-7365	1742	-709
DEC	52	-12145	664	-1592
ANN	30316	-56095	72208	-6592

Average Annual Solar Radiation – Nearest Available Site

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

City: SAN ANTONIO
 State: TX
 WBAN No: 12921
 Lat(N): 29.53
 Long(W): 98.47
 Elev(ft): 794

Stn Type: Primary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.858
 Vert Gap: 0.646

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	970	1230	1520	1740	1890	2120	2170	2040	1720	1420	1080	900	1570
	Std Dev	74	108	122	157	127	136	148	100	100	106	104	70	37
	Minimum	820	1040	1210	1380	1560	1790	1790	1780	1480	1140	850	780	1490
	Maximum	1120	1460	1820	2030	2060	2320	2430	2240	1950	1610	1310	1100	1640
	Diffuse	420	510	650	790	890	870	820	780	700	530	440	400	650
Clear Day	Global	1350	1660	2050	2380	2560	2610	2570	2410	2120	1740	1390	1240	2010
NORTH	Global	270	330	400	480	570	660	630	520	430	350	290	260	430
	Diffuse	270	330	400	470	520	540	530	490	430	350	290	260	410
Clear Day	Global	240	290	360	440	590	710	660	490	380	310	260	230	410
EAST	Global	580	700	810	860	900	1000	1080	1050	920	790	630	530	820
	Diffuse	330	390	480	560	610	640	630	610	540	430	350	310	490
Clear Day	Global	900	1050	1230	1340	1370	1380	1370	1330	1230	1070	910	830	1170
SOUTH	Global	1210	1220	1080	840	660	600	640	820	1050	1270	1270	1200	990
	Diffuse	430	470	530	540	540	530	530	550	560	510	450	410	510
Clear Day	Global	2050	1920	1570	1060	710	580	630	900	1340	1760	1980	2040	1380
WEST	Global	620	770	930	1020	1070	1170	1180	1120	1000	890	700	590	920
	Diffuse	330	400	500	580	630	650	640	620	550	450	360	310	500
Clear Day	Global	900	1050	1230	1340	1370	1380	1370	1330	1230	1070	910	830	1170

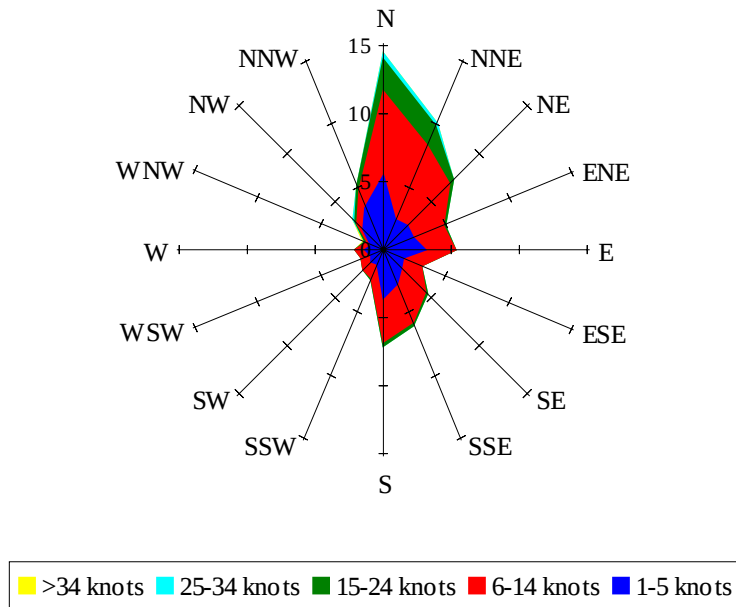
Average Annual Solar Heat and Illumination – Nearest Available Site

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

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ NORTH	Unshaded	670	870	1090	1260	1380	1550	1590	1490	1240	1010	750	610	1130
	Unshaded	190	230	280	320	370	420	400	340	300	250	200	180	290
	Shaded	170	200	240	290	320	360	350	310	270	220	180	160	250
EAST	Unshaded	400	490	570	610	630	700	760	750	650	550	440	370	580
	Shaded	340	410	480	500	520	570	620	610	550	470	380	320	480
SOUTH	Unshaded	890	860	710	520	410	380	390	480	660	880	930	890	670
	Shaded	840	700	420	330	330	330	330	340	360	620	850	860	520
WEST	Unshaded	440	540	660	730	760	840	840	800	710	630	490	410	650
	Shaded	380	470	560	600	630	690	690	660	600	540	420	360	550

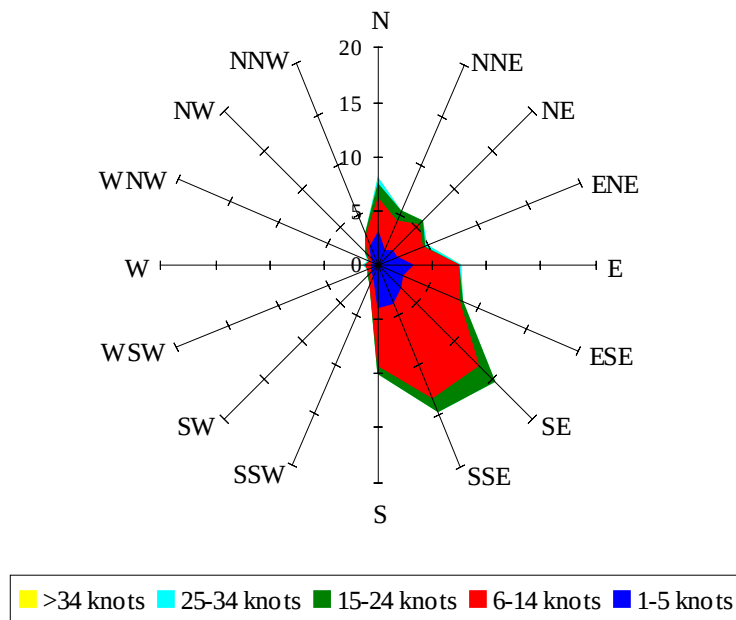
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9											
		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	35	77	95	84	45	33	76	103	104	78
	M.Cloudy	18	46	62	54	30	21	57	81	85	62
NORTH	M.Clear	9	15	16	15	11	24	19	18	18	18
	M.Cloudy	8	17	20	18	11	14	19	20	19	19
EAST	M.Clear	76	70	22	15	11	64	78	45	18	17
	M.Cloudy	19	34	22	18	11	27	51	38	19	18
SOUTH	M.Clear	28	59	73	64	35	10	17	28	28	17
	M.Cloudy	11	31	44	38	20	9	18	27	27	18
WEST	M.Clear	9	15	16	62	80	10	17	18	42	75
	M.Cloudy	8	17	20	37	37	9	18	20	37	56
M.Clear	(% hrs)	31	34	38	41	42	21	30	38	44	53
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	19	66	93	92	63	17	53	67	53	17
	M.Cloudy	13	46	69	72	49	9	31	40	32	11
NORTH	M.Clear	7	15	17	17	15	6	11	13	11	6
	M.Cloudy	6	16	19	20	16	4	12	15	12	5
EAST	M.Clear	52	78	44	17	15	51	54	13	11	6
	M.Cloudy	19	46	35	20	16	11	23	15	12	5
SOUTH	M.Clear	11	42	62	61	41	38	80	93	80	37
	M.Cloudy	7	29	45	48	30	9	30	40	33	12
WEST	M.Clear	7	15	17	44	76	6	11	14	55	49
	M.Cloudy	6	16	19	37	50	4	12	15	25	15
M.Clear	(% hrs)	34	37	41	43	48	33	35	38	39	42

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



Percent Calm = 20.11

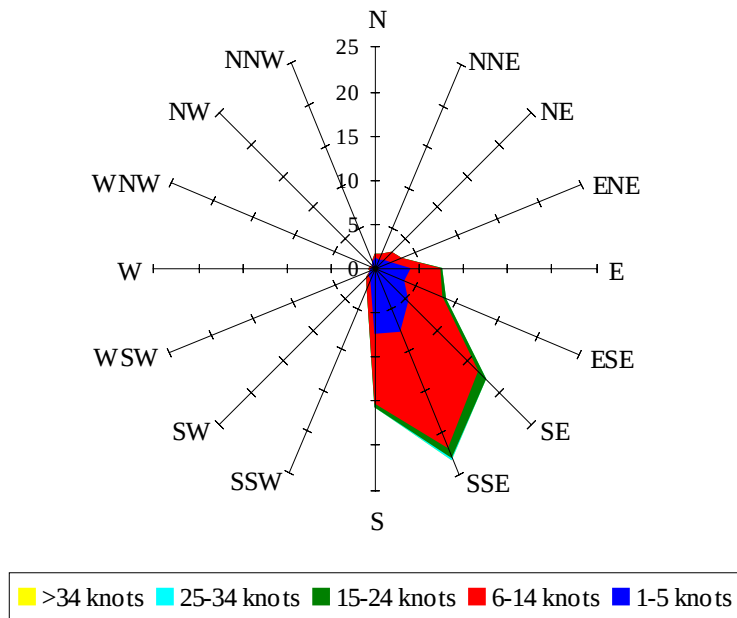
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 10.28

Wind Summary - June, July, and August

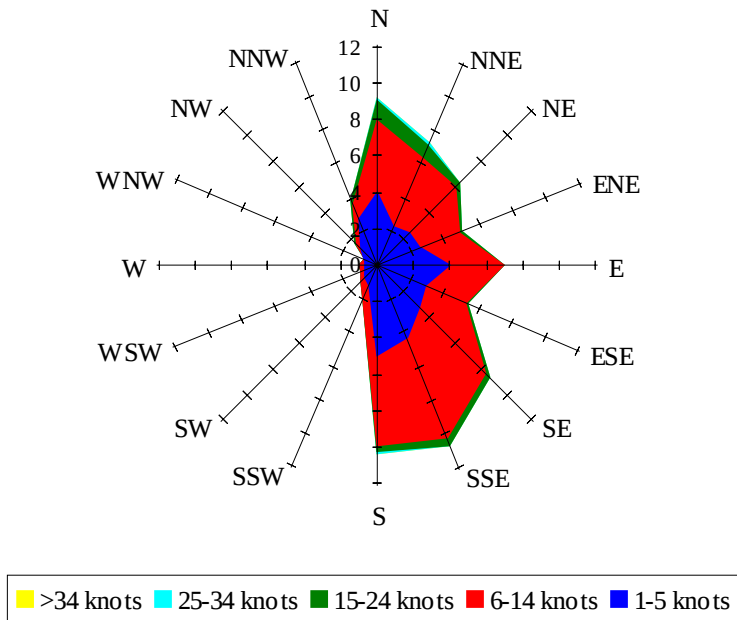
Labels of Percent Frequency on North Axis



Percent Calm = 12.94

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 19.20