

ALTUS AFB	OK	
Latitude = 34.67 N		WMO No. 723520
Longitude = 99.27 W		Elevation = 1378 feet
Period of Record = 1967 to 1996		Average Pressure = 28.51 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	106	72	71	9.7	S
0.4% Occurrence	102	73	80	10.3	S
1.0% Occurrence	100	73	85	10.4	S
2.0% Occurrence	97	73	90	11.4	S
Mean Daily Range	23	-	-	-	-
97.5% Occurrence	24	21	12	7.9	N
99.0% Occurrence	19	17	9	9.3	N
99.6% Occurrence	14	12	7	9.2	N
Median of Extreme Lows	8	6	5	7.7	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	80	93	141	10.0	S
0.4% Occurrence	77	92	121	11.1	S
1.0% Occurrence	76	91	116	10.4	S
2.0% Occurrence	75	90	111	10.2	S
	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	149	87	0.94	8.7	E
0.4% Occurrence	130	85	0.82	9.9	SSE
1.0% Occurrence	125	82	0.79	7.6	S
2.0% Occurrence	120	81	0.77	8.3	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		426	1731	666	2299

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
11	3.8	90	2.2 + 2.2
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 (#)
64.0	14	5	50

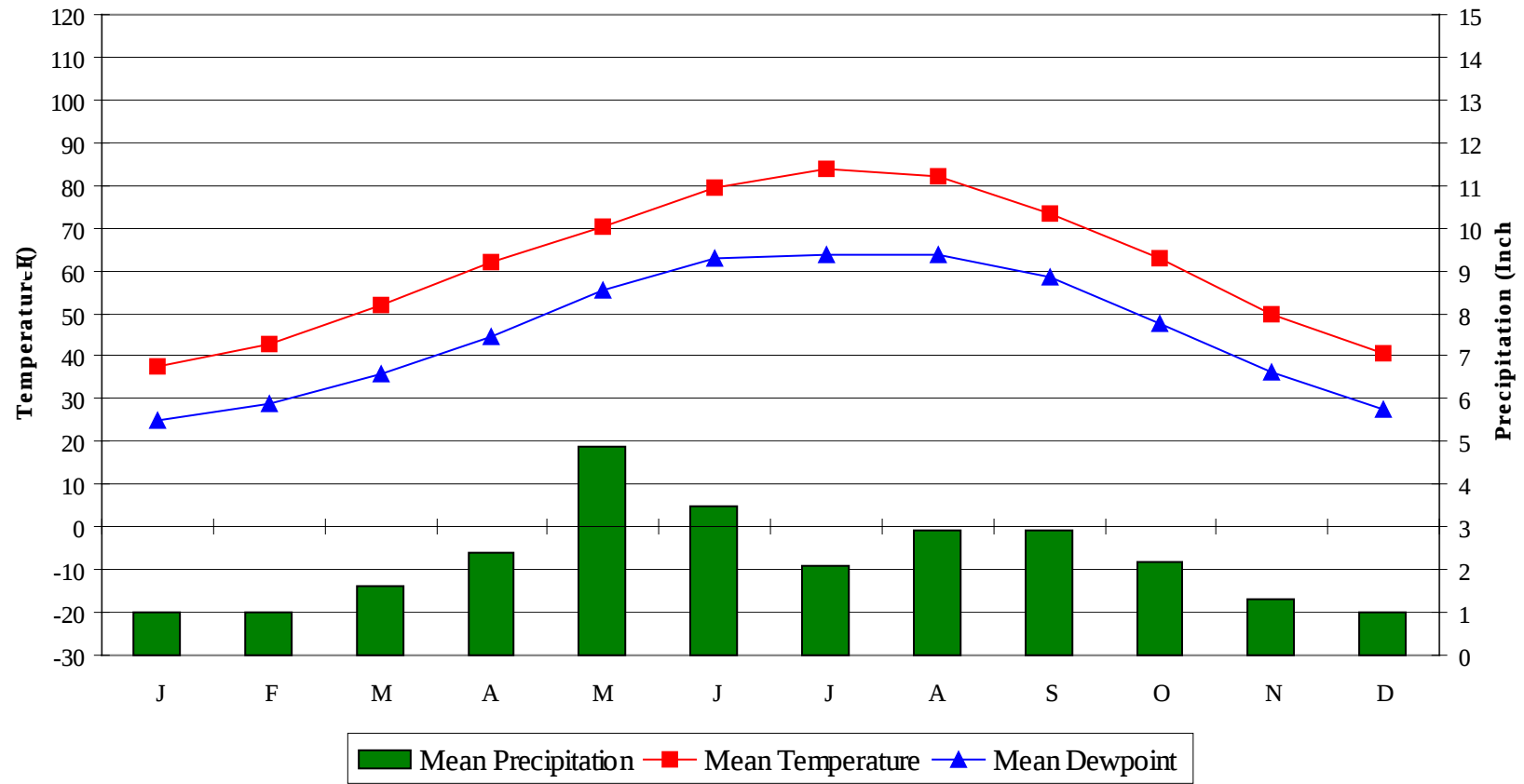
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

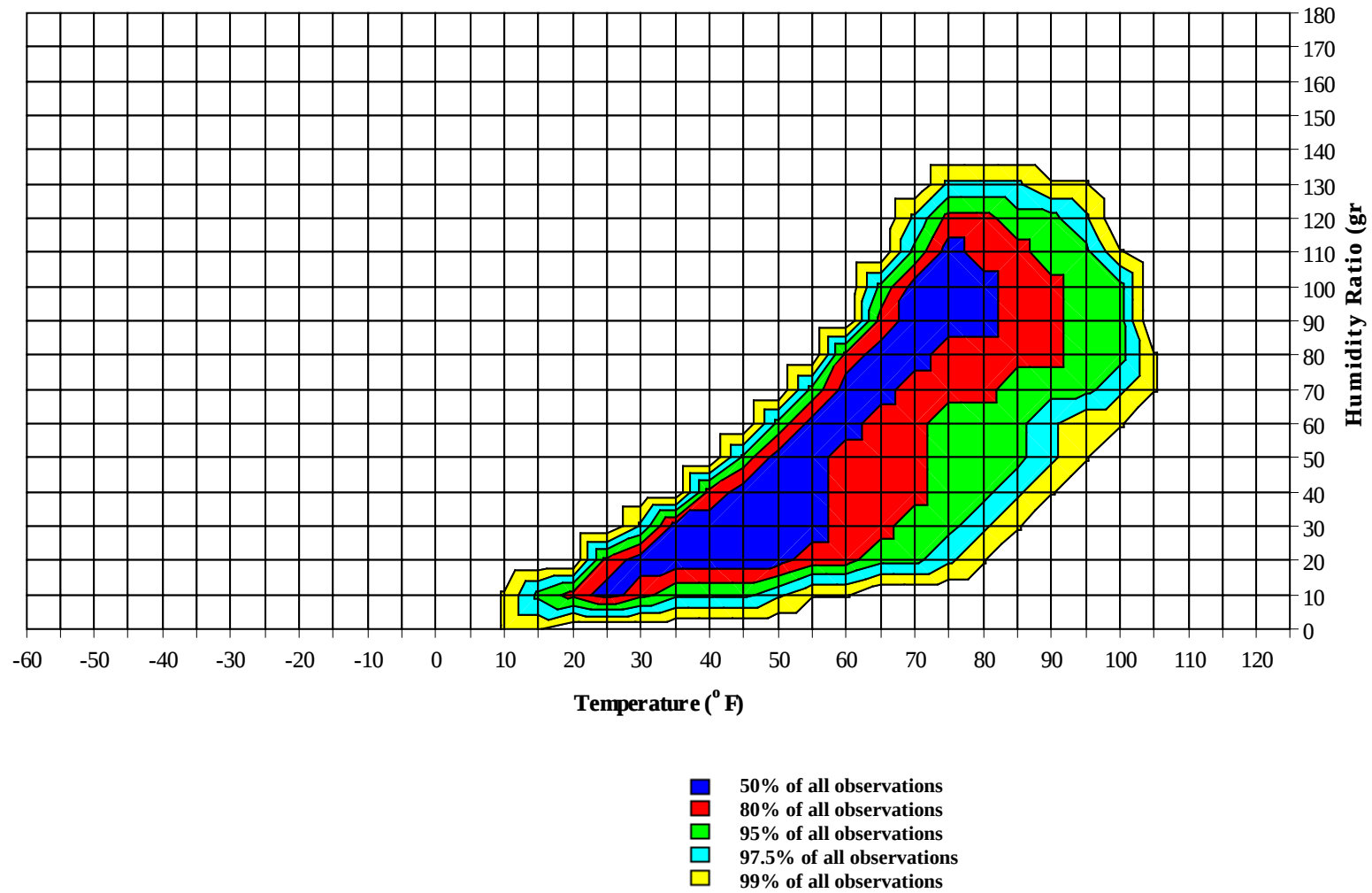


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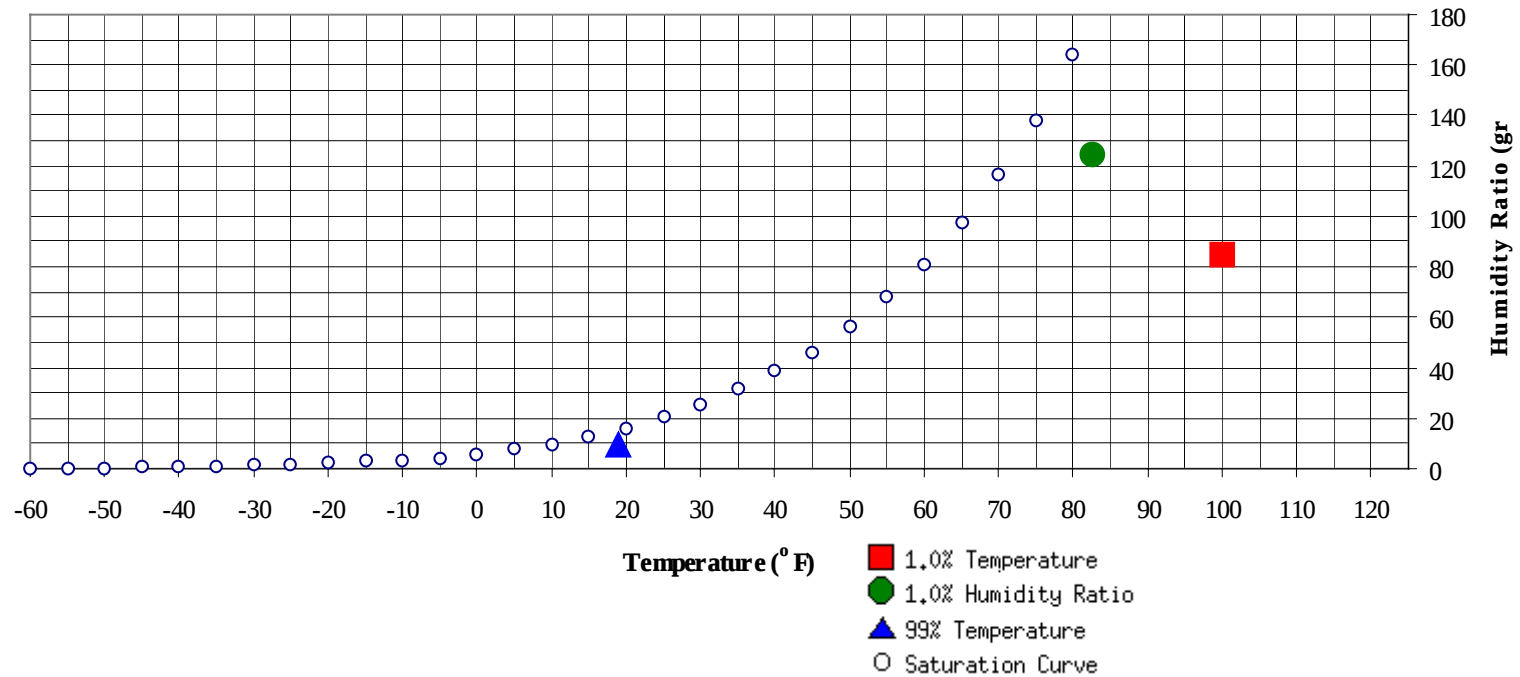
Long Term Psychrometric Summary



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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	19	9.2	6.0	Ratio	124.6	82.5	74.9	72	39.3

1.0% Dry Bulb	(°F)	MCHR	MCWB	Enthalpy
		(gr/lb)	(°F)	(btu/lb)
	100	84.9	73.2	37.4

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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		
115 / 119															
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	54.7		0	0	0	57.3		2	0	2	61.4
80 / 84		0	0	1	54.4		2	1	2	57.5		4	2	6	60.1
75 / 79		1	0	1	54.2		5	2	7	55.4		8	4	12	59.9
70 / 74		3	1	4	53.0		10	5	15	53.3		12	8	21	58.1
65 / 69		9	4	13	50.8	0	14	9	23	51.7	1	21	14	36	55.8
60 / 64	1	15	8	23	48.9	6	23	20	49	47.0	4	31	22	57	54.2
55 / 59	2	21	14	36	46.4	1	19	14	35	49.2	12	33	31	76	52.0
50 / 54	5	28	20	53	43.3	6	23	20	49	47.0	22	33	39	94	49.0
45 / 49	12	30	30	72	40.5	12	26	26	64	44.3	34	33	41	108	45.6
40 / 44	26	33	40	99	37.1	21	28	34	82	41.2	47	28	33	108	41.8
35 / 39	44	35	44	123	33.2	39	28	35	102	37.7	50	18	25	93	37.8
30 / 34	60	29	38	127	29.1	44	25	30	98	33.5	38	12	16	66	33.3
25 / 29	43	21	25	88	24.3	46	20	25	92	29.2	24	7	9	40	29.3
20 / 24	30	13	15	58	19.9	29	12	13	53	24.4	10	2	3	15	24.4
15 / 19	15	6	7	29	15.1	16	7	6	29	20.0	4	1	2	7	19.5
10 / 14	8	3	2	13	10.6	6	3	3	12	15.0	2	0	0	2	14.9
5 / 9	1	0	1	2	6.5	3	1	1	5	9.9	1	0		1	10.9
0 / 4	1	0	0	1	1.7	1	0		2	6.7					
-5 / -1	0			0	-2.5										
-10 / -6															

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		
115 / 119												0		0	70.5
110 / 114												1	0	1	71.9
105 / 109							0	0	0	66.5		1	1	2	72.9
100 / 104		0		0	72.0		1	1	2	69.1		7	4	11	73.3
95 / 99		1	0	1	66.8		5	3	8	70.1		25	14	39	73.5
90 / 94		3	2	5	64.9		14	7	22	69.5	0	47	29	76	72.7
85 / 89	0	11	5	16	64.2	0	28	17	45	68.6	1	52	41	95	71.3
80 / 84	0	22	13	35	62.8	2	44	30	76	67.0	16	48	51	115	69.9
75 / 79	0	34	21	55	61.0	10	50	40	101	65.1	55	29	46	130	68.4
70 / 74	4	41	33	79	59.2	33	47	48	128	63.4	79	18	32	129	66.2
65 / 69	19	40	42	100	57.1	61	31	46	138	61.0	55	9	16	80	62.8
60 / 64	37	36	43	117	54.3	64	17	33	115	57.4	26	2	5	33	58.7
55 / 59	51	24	34	110	50.6	43	6	15	65	52.7	6	0	1	8	54.1
50 / 54	49	16	24	88	46.3	23	3	6	32	48.3	1			1	50.7
45 / 49	40	6	14	60	42.4	8	1	1	10	43.8					
40 / 44	25	4	7	36	38.4	2	0	0	3	40.6					
35 / 39	10	1	2	13	34.2	0			0	37.0					
30 / 34	3	0	1	4	29.7										
25 / 29	1			1	26.0										
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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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		
115 / 119															
110 / 114		0	0	0	73.3										
105 / 109		5	2	7	72.2		3	1	4	73.4		0	0	0	70.4
100 / 104		23	13	35	73.0		19	9	27	73.4		3	1	4	72.5
95 / 99		50	29	79	73.1		44	22	66	73.5		10	4	14	71.5
90 / 94	0	59	41	101	72.5	0	55	36	91	72.5		28	13	41	71.1
85 / 89	5	52	52	109	71.4	3	49	48	101	71.4	0	39	23	62	70.2
80 / 84	42	35	57	134	70.3	29	40	57	125	70.2	4	46	38	88	68.6
75 / 79	95	16	35	146	69.0	86	23	44	153	68.9	24	41	49	114	67.0
70 / 74	80	7	16	103	67.1	90	11	24	125	66.9	66	33	47	145	65.5
65 / 69	22	1	3	26	63.4	32	4	7	43	63.0	59	21	32	113	61.6
60 / 64	2	0	0	3	58.1	8	1	1	9	59.1	39	9	18	66	56.6
55 / 59	0			0	54.3	0	0		0	56.3	25	6	9	40	52.5
50 / 54											16	3	5	24	48.6
45 / 49											5	1	1	7	43.8
40 / 44											2	0	0	2	40.3
35 / 39											0			0	35.6
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

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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		
115 / 119															
110 / 114															
105 / 109															
100 / 104		0	0	0	66.0										
95 / 99		1	0	1	65.1										
90 / 94		5	1	6	67.1										
85 / 89		16	5	21	66.2		1	0	1	62.5		0		0	54.0
80 / 84		27	12	39	64.5		4	1	4	60.8		0		0	56.3
75 / 79	1	35	21	57	62.6		11	3	14	59.8		1	0	1	53.9
70 / 74	9	43	34	86	60.5	0	18	7	25	57.7		6	1	7	55.0
65 / 69	23	41	44	109	58.2	4	26	16	46	55.9	0	11	3	14	52.4
60 / 64	43	34	46	124	55.4	11	32	25	69	52.9	1	18	8	27	50.4
55 / 59	61	23	38	121	51.5	19	33	33	85	49.7	4	26	15	46	47.4
50 / 54	48	13	26	87	46.8	28	37	40	104	45.7	9	33	26	68	44.0
45 / 49	34	6	12	52	42.5	47	32	43	121	41.9	17	39	42	98	40.8
40 / 44	18	3	6	27	38.5	43	23	33	99	37.8	39	38	47	124	37.5
35 / 39	8	0	1	10	34.4	41	14	23	78	33.5	51	31	45	127	33.1
30 / 34	2	1	1	3	29.7	32	6	12	49	29.1	58	21	32	112	29.1
25 / 29	0	0	0	1	25.5	11	2	4	18	24.5	37	12	16	65	24.4
20 / 24	0		0	0	19.9	4	0	1	5	19.9	17	5	7	29	19.8
15 / 19						1		0	2	15.6	7	3	2	12	14.9
10 / 14						0			0	13.0	4	2	3	9	10.3
5 / 9											3	1	1	5	6.1
0 / 4											0	0	0	1	0.9
-5 / -1											0	0	0	0	-4.1
-10 / -6											0			0	-6.3

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 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			
115 / 119	0			0	70.5	
110 / 114	1			0	1	72.2
105 / 109	9			4	13	72.6
100 / 104	52			27	79	73.1
95 / 99	136			73	209	73.0
90 / 94	0	213	129	342	71.9	
85 / 89	10	253	194	457	70.3	
80 / 84	93	277	261	631	68.4	
75 / 79	272	258	269	799	66.5	
70 / 74	362	258	262	882	63.6	
65 / 69	280	238	244	762	59.1	
60 / 64	246	217	234	697	54.5	
55 / 59	241	196	218	655	50.1	
50 / 54	225	192	213	630	45.7	
45 / 49	230	170	211	610	41.6	
40 / 44	243	148	193	585	37.7	
35 / 39	237	119	160	516	33.4	
30 / 34	225	85	117	427	29.1	
25 / 29	132	49	60	242	24.4	
20 / 24	72	27	31	130	19.9	
15 / 19	31	12	14	57	15.0	
10 / 14	16	6	6	28	10.4	
5 / 9	5	2	2	9	6.3	
0 / 4	1	0	0	2	1.3	
-5 / -1	0	0	0	0	-3.6	
-10 / -6	0			0	-6.3	

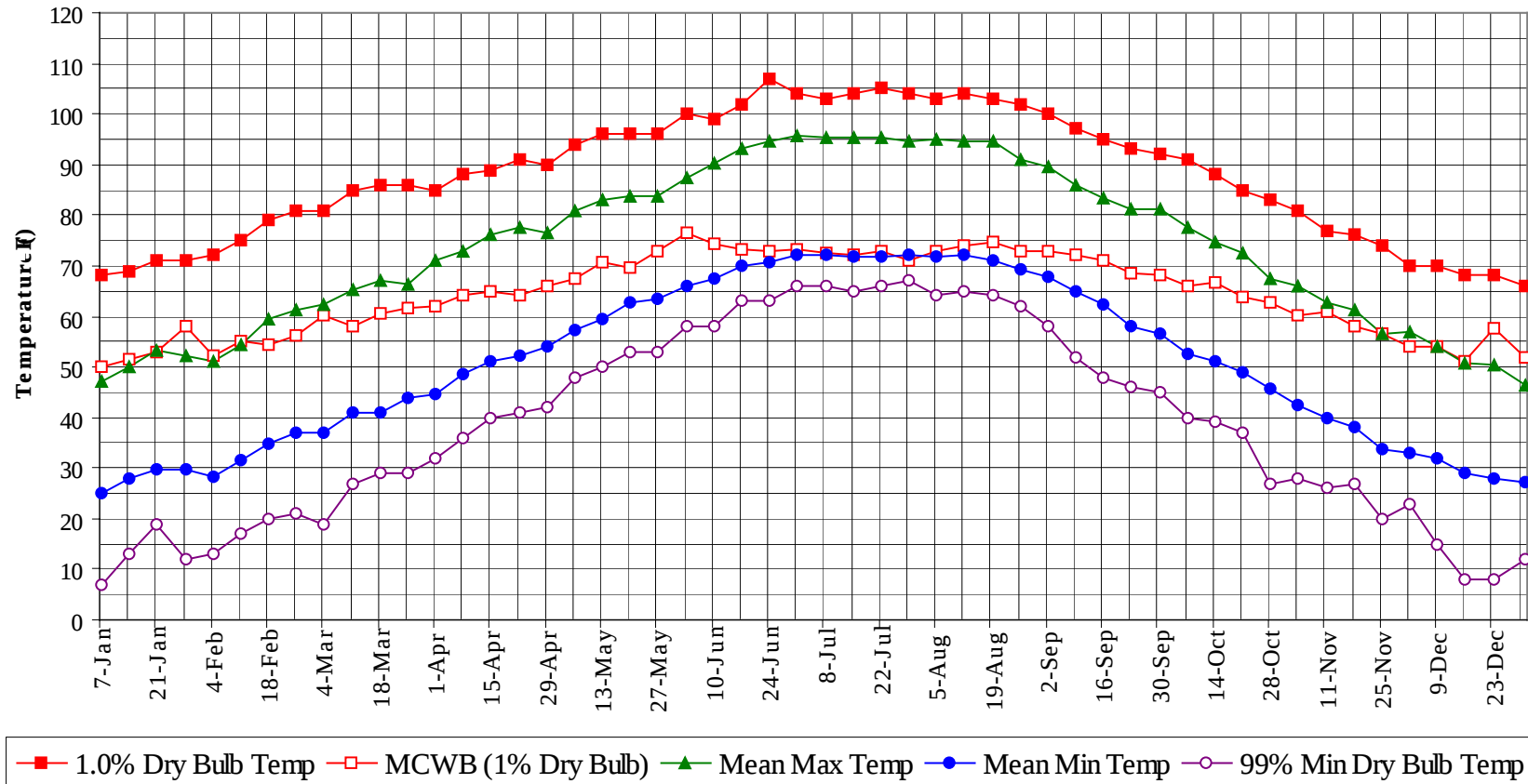
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

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Annual Summary of Temperatures

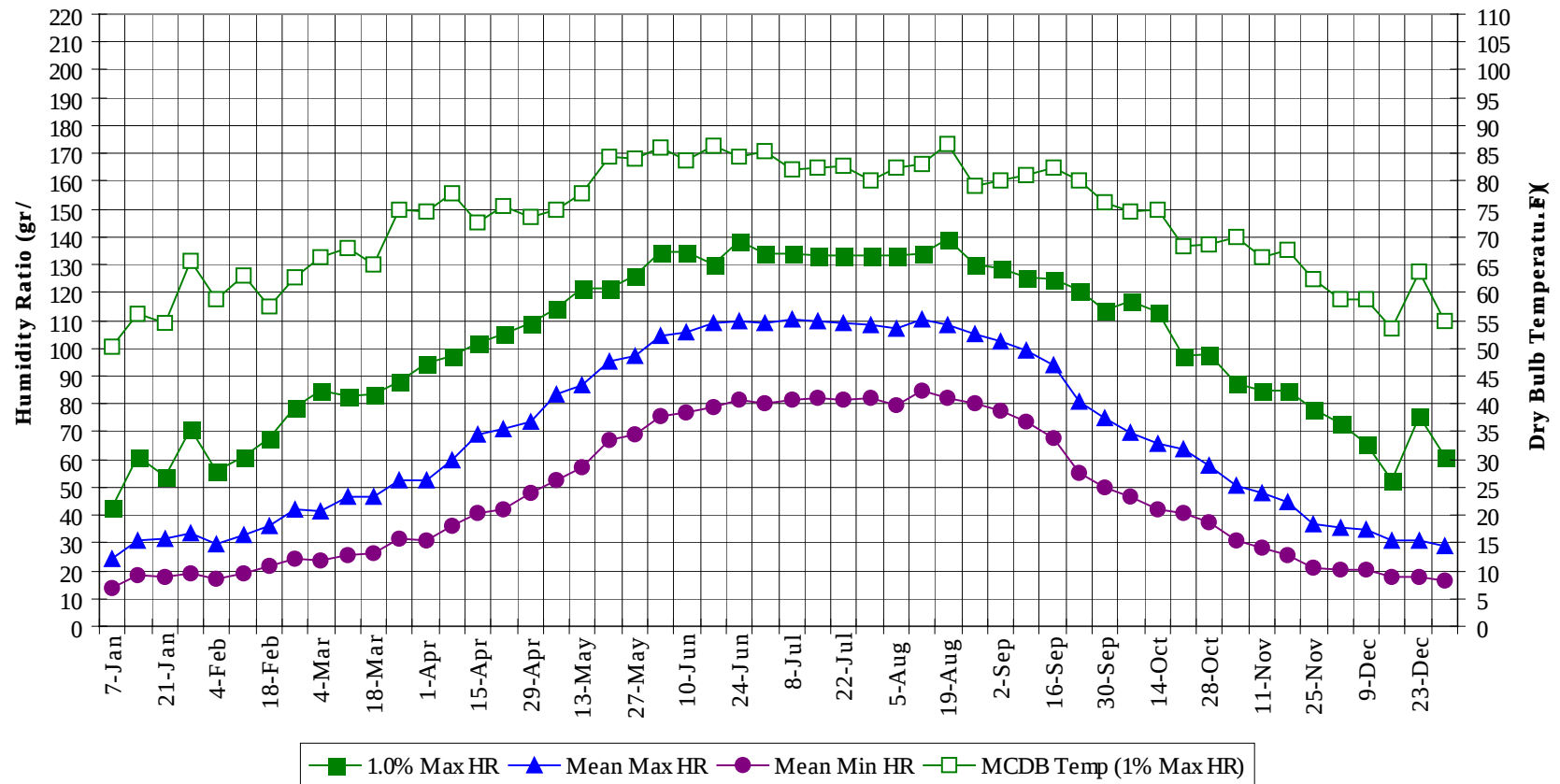


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Long Term Humidity and Dry Bulb Temperature Summary



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Long Term Dry Bulb Temperature and Humidity Summary

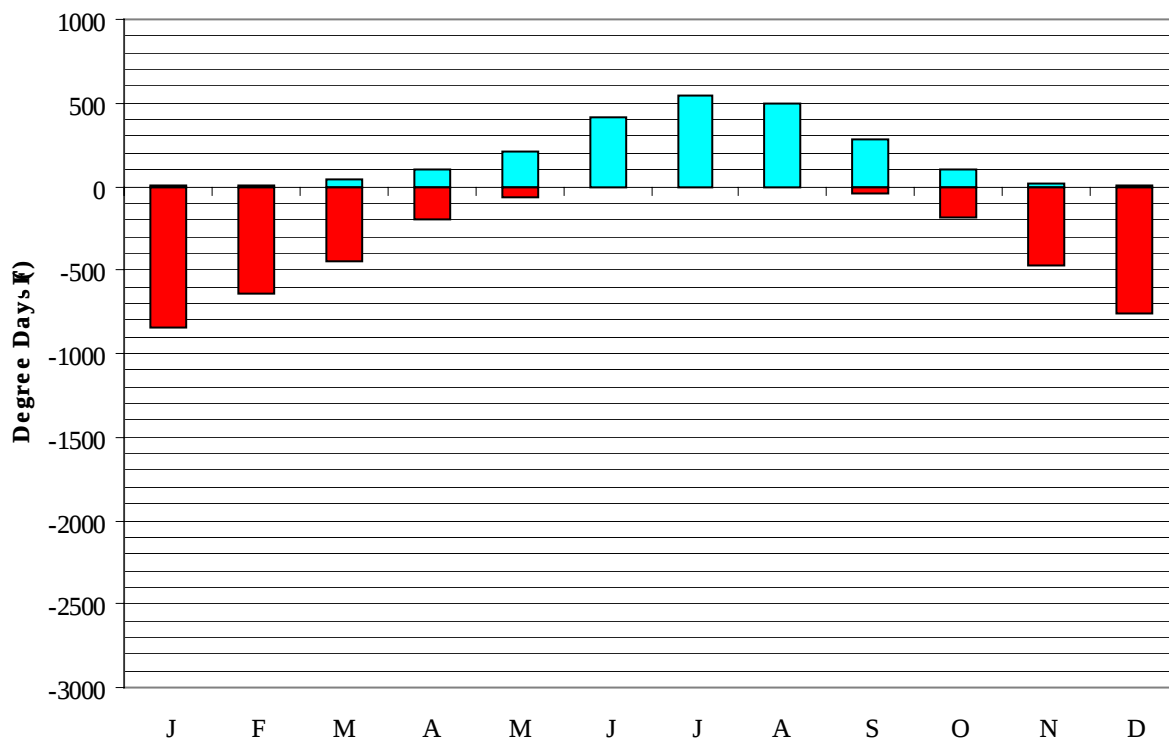
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	68.0	49.9	47.0	24.8	7.0	42.7	50.1	24.5	13.9
14-Jan	69.0	51.3	49.9	28.1	13.0	60.9	56.0	31.1	18.2
21-Jan	71.0	52.9	53.2	29.7	19.0	53.9	54.5	31.4	18.1
28-Jan	71.0	58.1	52.3	29.7	12.0	70.7	65.6	33.4	19.2
4-Feb	72.0	52.2	51.2	28.4	13.0	56.0	58.9	29.7	17.2
11-Feb	75.0	55.1	54.5	31.6	17.0	60.9	63.1	33.1	19.2
18-Feb	79.0	54.5	59.4	34.8	20.0	67.9	57.6	36.0	21.6
25-Feb	81.0	56.3	61.2	36.8	21.0	79.1	62.9	42.2	24.2
4-Mar	81.0	60.1	62.2	37.1	19.0	84.7	66.4	41.6	23.8
11-Mar	85.0	58.1	65.3	40.9	27.0	82.6	68.0	46.3	25.7
18-Mar	86.0	60.6	66.9	41.0	29.0	83.3	65.0	47.0	26.1
25-Mar	86.0	61.6	66.4	43.7	29.0	88.2	74.8	52.6	31.4
1-Apr	85.0	62.0	71.1	44.7	32.0	94.5	74.4	52.7	30.8
8-Apr	88.0	64.4	73.0	48.4	36.0	97.3	77.8	60.0	36.0
15-Apr	89.0	64.9	76.1	51.1	40.0	101.5	72.6	69.3	40.8
22-Apr	91.0	64.2	77.6	52.3	41.0	105.0	75.6	70.8	42.3
29-Apr	90.0	65.9	76.6	54.2	42.0	109.2	73.6	73.7	47.9
6-May	94.0	67.4	80.7	57.4	48.0	114.1	74.9	83.1	52.2
13-May	96.0	70.7	83.1	59.6	50.0	121.8	77.9	86.7	57.4
20-May	96.0	69.6	83.8	62.6	53.0	121.8	84.3	95.2	66.8
27-May	96.0	72.7	83.7	63.4	53.0	126.0	84.1	97.2	69.3
3-Jun	100.0	76.5	87.5	66.1	58.0	134.4	86.1	104.4	75.6
10-Jun	99.0	74.3	90.3	67.4	58.0	134.4	83.7	105.8	77.0
17-Jun	102.0	73.3	93.0	69.9	63.0	130.2	86.2	108.9	79.1
24-Jun	107.0	73.0	94.5	70.7	63.0	138.6	84.4	109.6	81.2
1-Jul	104.0	73.2	95.7	72.3	66.0	133.7	85.5	108.9	80.2
8-Jul	103.0	72.6	95.4	72.3	66.0	133.7	82.1	110.6	81.5
15-Jul	104.0	72.3	95.5	72.0	65.0	133.0	82.6	109.5	82.3
22-Jul	105.0	72.8	95.4	71.9	66.0	133.0	82.9	109.2	81.3
29-Jul	104.0	71.0	94.5	72.0	67.0	133.0	80.0	108.1	81.8
5-Aug	103.0	73.0	95.0	71.7	64.0	133.0	82.4	106.9	79.4
12-Aug	104.0	74.0	94.7	72.1	65.0	133.7	83.2	110.2	84.5
19-Aug	103.0	74.6	94.8	71.2	64.0	139.3	86.8	108.6	81.9
26-Aug	102.0	72.7	91.0	69.4	62.0	130.2	79.2	105.4	80.1
2-Sep	100.0	72.8	89.5	67.9	58.0	128.8	80.0	102.5	77.6
9-Sep	97.0	72.0	85.8	65.1	52.0	125.3	81.2	99.2	73.6
16-Sep	95.0	71.0	83.5	62.5	48.0	124.6	82.5	94.0	67.9
23-Sep	93.0	68.4	81.2	58.2	46.0	121.1	80.1	81.1	55.2
30-Sep	92.0	68.0	81.2	56.7	45.0	113.4	76.2	74.9	50.1
7-Oct	91.0	66.1	77.6	52.6	40.0	116.9	74.5	69.6	46.6
14-Oct	88.0	66.8	74.8	51.0	39.0	112.7	74.8	65.7	42.2
21-Oct	85.0	63.9	72.4	49.1	37.0	97.3	68.4	63.8	40.7
28-Oct	83.0	62.6	67.3	45.6	27.0	98.0	68.7	57.9	37.5
4-Nov	81.0	60.4	65.9	42.4	28.0	87.5	70.0	50.8	31.1
11-Nov	77.0	60.9	62.6	39.9	26.0	84.7	66.3	47.7	28.5
18-Nov	76.0	57.9	61.1	37.9	27.0	84.7	67.7	44.6	25.5
25-Nov	74.0	56.6	56.6	33.7	20.0	78.4	62.3	37.0	20.8
2-Dec	70.0	54.2	56.9	33.1	23.0	72.8	58.8	35.7	20.3
9-Dec	70.0	53.9	54.0	31.9	15.0	65.8	58.8	34.5	20.1
16-Dec	68.0	51.3	50.6	29.1	8.0	52.5	53.5	31.0	18.0
23-Dec	68.0	57.6	50.3	28.0	8.0	75.6	63.7	30.7	17.5
31-Dec	66.0	51.7	46.5	27.1	12.0	60.9	54.8	28.9	16.6

ALTUS AFB

OK

WMO No. 723520

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



■ Mean Cooling Degree Days
 ■ Mean Heating Degree Days

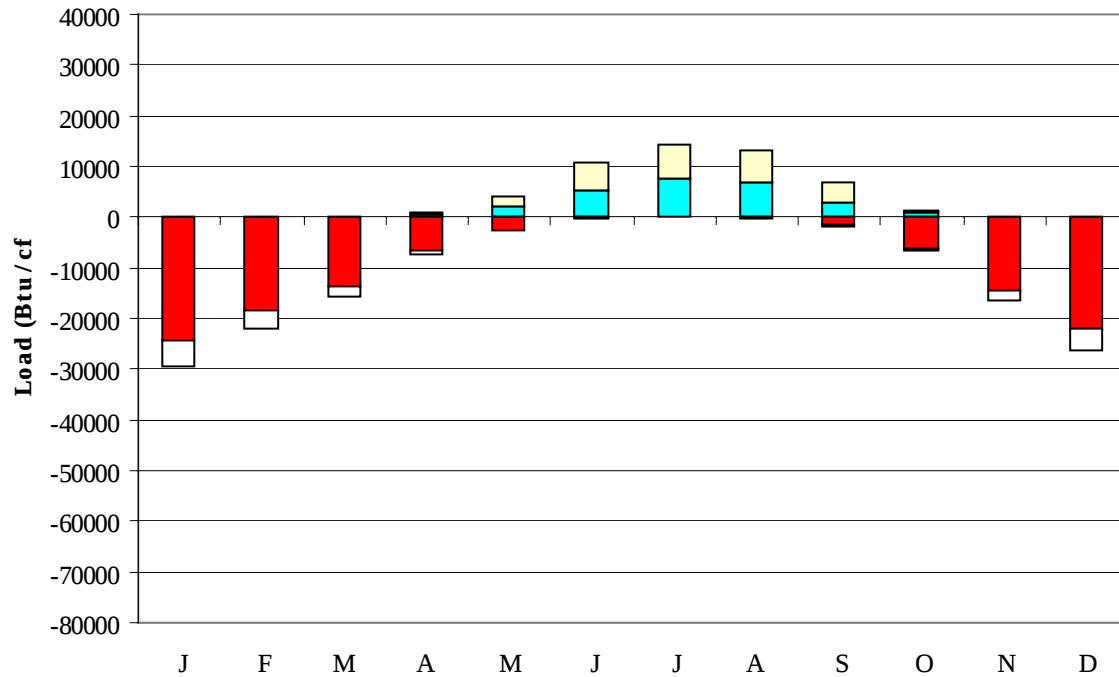
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	3	849
FEB	11	637
MAR	38	444
APR	96	199
MAY	214	62
JUN	408	6
JUL	546	0
AUG	499	1
SEP	277	40
OCT	107	184
NOV	20	478
DEC	3	764
ANN	2221	3664

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WMO No. 723520

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



■ Average Sensible Cooling Load	■ Average Sensible Heating Load
■ Average Latent Cooling (Drying) Load	■ Average Latent Heating (Humidifying) Load

	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	8	-24382	0	-5076
FEB	40	-18584	1	-3544
MAR	240	-13557	36	-2137
APR	675	-6692	340	-682
MAY	1972	-2515	2219	-44
JUN	5070	-378	5783	-1
JUL	7664	-42	6591	0
AUG	6650	-93	6394	0
SEP	2856	-1630	3969	-32
OCT	770	-6309	598	-457
NOV	71	-14495	51	-2010
DEC	5	-22151	2	-4250
ANN	26021	-110828	25984	-18233

Average Annual Solar Radiation – Nearest Available Site

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

City: WICHITA FALLS
 State: TX
 WBAN No: 13966
 Lat(N): 33.97
 Long(W): 98.48
 Elev(ft): 1030

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1
 Overhang: 0.365
 Vert Gap: 0.275

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	910	1160	1500	1830	2030	2200	2200	2000	1640	1340	980	820	1550
	Std Dev	77	82	118	124	122	106	121	108	113	115	77	64	35
	Minimum	710	1010	1270	1590	1820	2030	1990	1740	1430	1080	850	660	1480
	Maximum	1020	1340	1700	2030	2230	2430	2510	2180	1850	1500	1110	960	1620
	Diffuse	350	450	570	680	760	760	720	660	580	450	370	320	560
Clear Day	Global	1170	1510	1940	2340	2570	2650	2590	2380	2030	1600	1220	1060	1920
NORTH	Global	240	300	380	460	560	650	620	490	400	320	260	220	410
	Diffuse	240	300	380	450	500	520	510	460	390	320	260	220	380
Clear Day	Global	220	280	350	430	580	700	640	480	360	290	230	200	400
EAST	Global	590	720	890	1020	1080	1150	1200	1120	960	810	630	540	890
	Diffuse	290	370	470	550	600	620	610	570	490	390	320	270	460
Clear Day	Global	820	1010	1210	1360	1410	1440	1420	1350	1220	1030	840	750	1160
SOUTH	Global	1330	1310	1210	990	770	690	730	910	1120	1360	1320	1300	1080
	Diffuse	400	460	520	540	540	530	530	520	470	420	420	370	490
Clear Day	Global	2040	1980	1700	1220	860	720	780	1050	1470	1840	1980	2000	1470
WEST	Global	610	750	910	1060	1120	1210	1210	1130	980	850	640	550	920
	Diffuse	300	370	470	560	610	630	620	580	500	400	320	270	470
Clear Day	Global	820	1010	1210	1360	1410	1440	1420	1350	1220	1030	840	750	1160

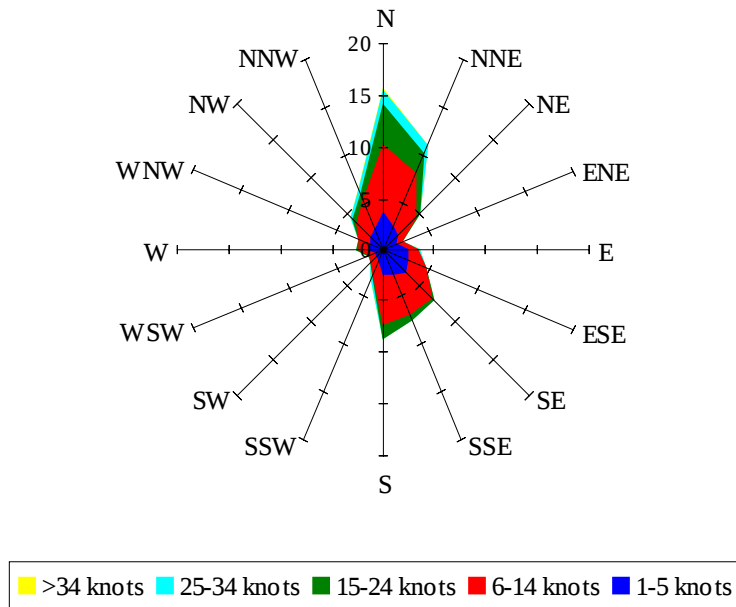
Average Annual Solar Heat and Illumination – Nearest Available Site

(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	Unshaded	610	810	1080	1330	1480	1610	1620	1460	1180	940	660	540	1110
NORTH	Unshaded	170	210	260	310	370	410	390	320	270	220	180	150	270
	Shaded	160	200	250	290	340	380	360	310	260	210	170	140	260
EAST	Unshaded	410	500	630	730	770	820	860	800	680	570	440	370	630
	Shaded	380	470	580	660	690	740	780	730	630	530	410	350	580
SOUTH	Unshaded	1000	950	810	610	460	410	430	540	730	950	980	970	730
	Shaded	980	900	690	450	350	350	350	390	570	870	960	960	650
WEST	Unshaded	420	530	650	760	800	870	860	800	700	610	450	380	650
	Shaded	390	490	600	690	730	790	780	730	640	560	420	360	600

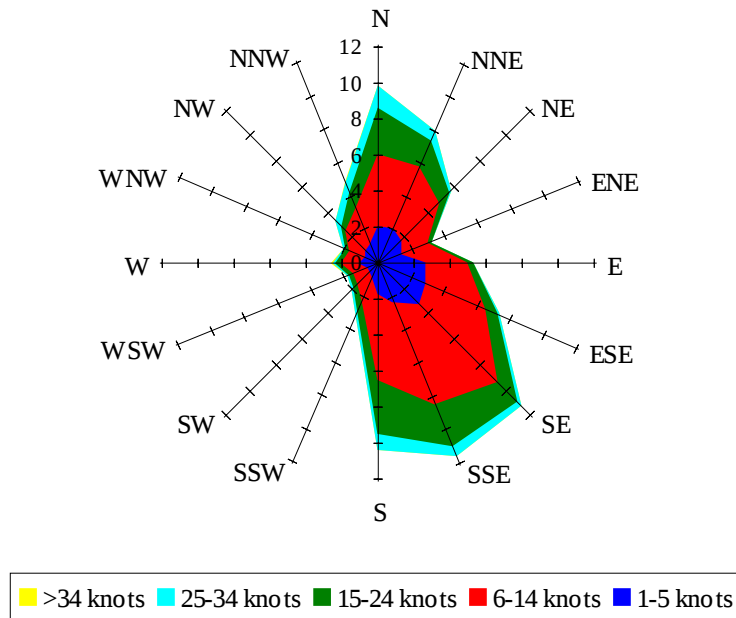
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	32	73	90	79	43	35	78	102	103	79
	M.Cloudy	19	46	60	52	28	24	57	77	81	62
NORTH	M.Clear	9	14	15	14	10	24	16	17	17	16
	M.Cloudy	8	16	18	17	11	15	17	19	19	18
EAST	M.Clear	74	69	22	14	10	70	79	44	17	16
	M.Cloudy	25	37	21	17	11	35	53	37	19	18
SOUTH	M.Clear	29	63	78	69	37	10	19	35	36	20
	M.Cloudy	13	35	47	40	21	10	19	31	32	20
WEST	M.Clear	9	14	15	61	79	10	16	17	41	77
	M.Cloudy	8	16	18	36	36	10	17	19	36	57
M.Clear	(% hrs)	42	42	42	42	43	45	46	47	49	52
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	19	64	90	89	62	13	46	59	46	12
	M.Cloudy	12	41	57	61	42	8	29	38	28	8
NORTH	M.Clear	7	14	16	16	14	5	10	12	10	5
	M.Cloudy	5	14	18	19	14	4	11	13	11	4
EAST	M.Clear	54	78	43	16	14	43	52	12	10	5
	M.Cloudy	18	40	30	19	14	12	24	14	11	4
SOUTH	M.Clear	12	46	68	67	45	33	81	94	80	32
	M.Cloudy	7	27	40	43	28	10	33	44	33	11
WEST	M.Clear	7	14	16	43	77	5	10	13	52	42
	M.Cloudy	5	14	18	32	43	4	11	14	24	13
M.Clear	(% hrs)	51	51	52	50	52	44	43	43	45	46

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



Percent Calm = 13.61

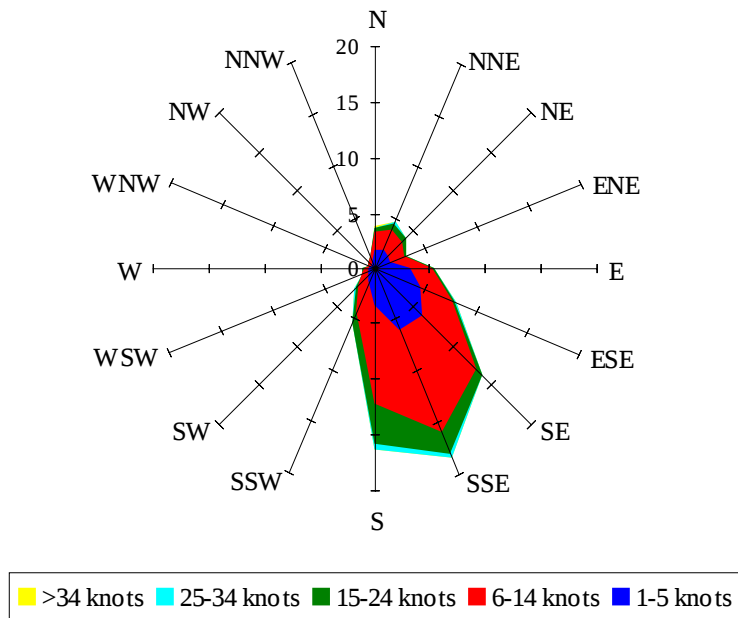
Wind Summary - March, April, and May **Labels of Percent Frequency on North Axis**



Percent Calm = 9.09

Wind Summary - June, July, and August

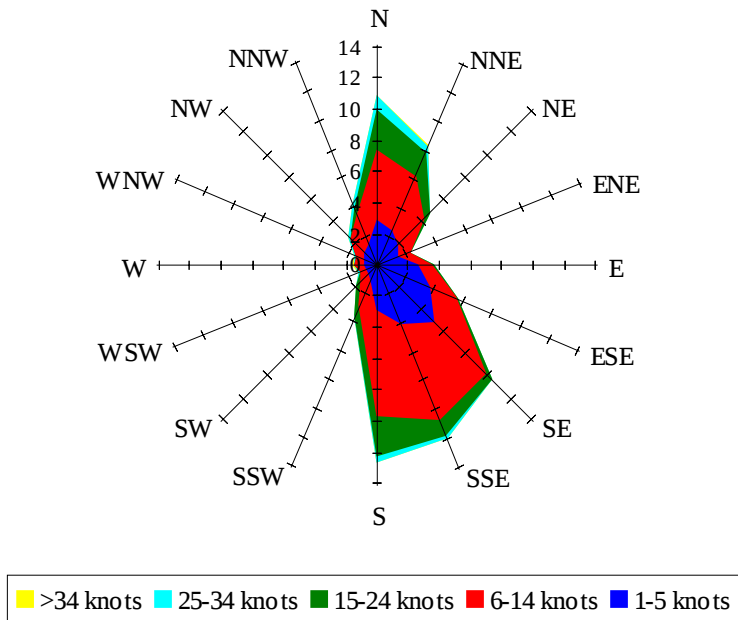
Labels of Percent Frequency on North Axis



Percent Calm = 11.80

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 14.33