

DODGE CITY(AWOS) KS

Latitude = 37.77 N

WMO No. 724510

Longitude = 99.97 W

Elevation = 2592 feet

Period of Record = 1973 to 1996

Average Pressure = 27.28 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	105	71	68	16.0	S
0.4% Occurrence	100	70	74	17.0	S
1.0% Occurrence	97	70	77	16.9	S
2.0% Occurrence	95	70	80	16.5	S
Mean Daily Range	24	-	-	-	-
97.5% Occurrence	13	12	9	12.5	N
99.0% Occurrence	6	5	6	13.6	N
99.6% Occurrence	0	-1	4	12.8	N
Median of Extreme Lows	-7	-8	3	11.7	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	77	91	126	13.9	S
0.4% Occurrence	74	90	109	15.8	S
1.0% Occurrence	73	90	104	15.8	S
2.0% Occurrence	72	88	101	15.6	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	134	83	0.82	10.2	S
0.4% Occurrence	122	80	0.74	12.8	S
1.0% Occurrence	114	79	0.69	14.3	S
2.0% Occurrence	109	78	0.67	13.5	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		254	1140	121	1167

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
7	3.5	90	0.9 + 1.4
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 (#)
56.9	N/A	14	82

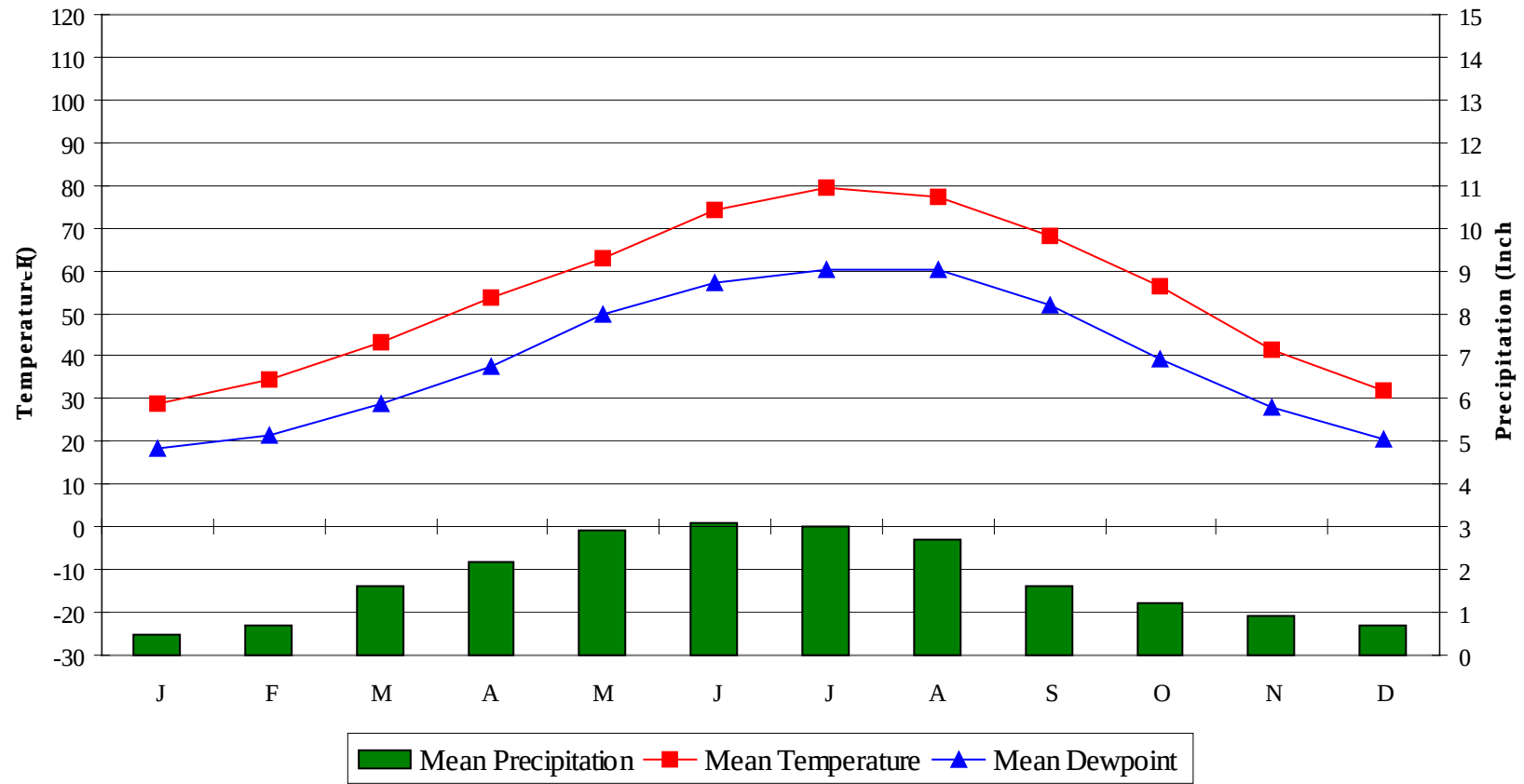
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

DODGE CITY(AWOS)

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Average Annual Climate

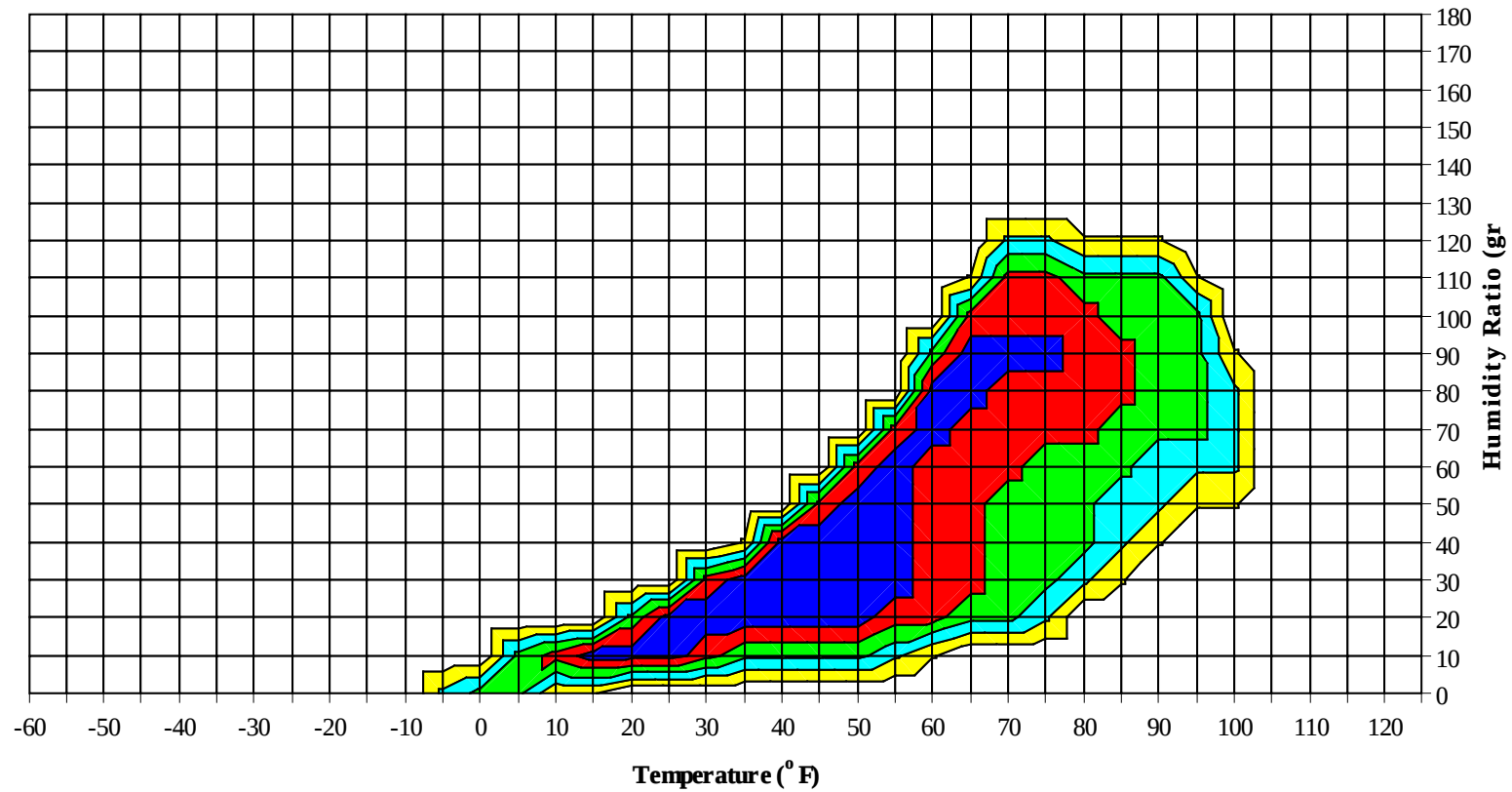


DODGE CITY(AWOS)

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WMO No. 724510

Long Term Psychrometric Summary

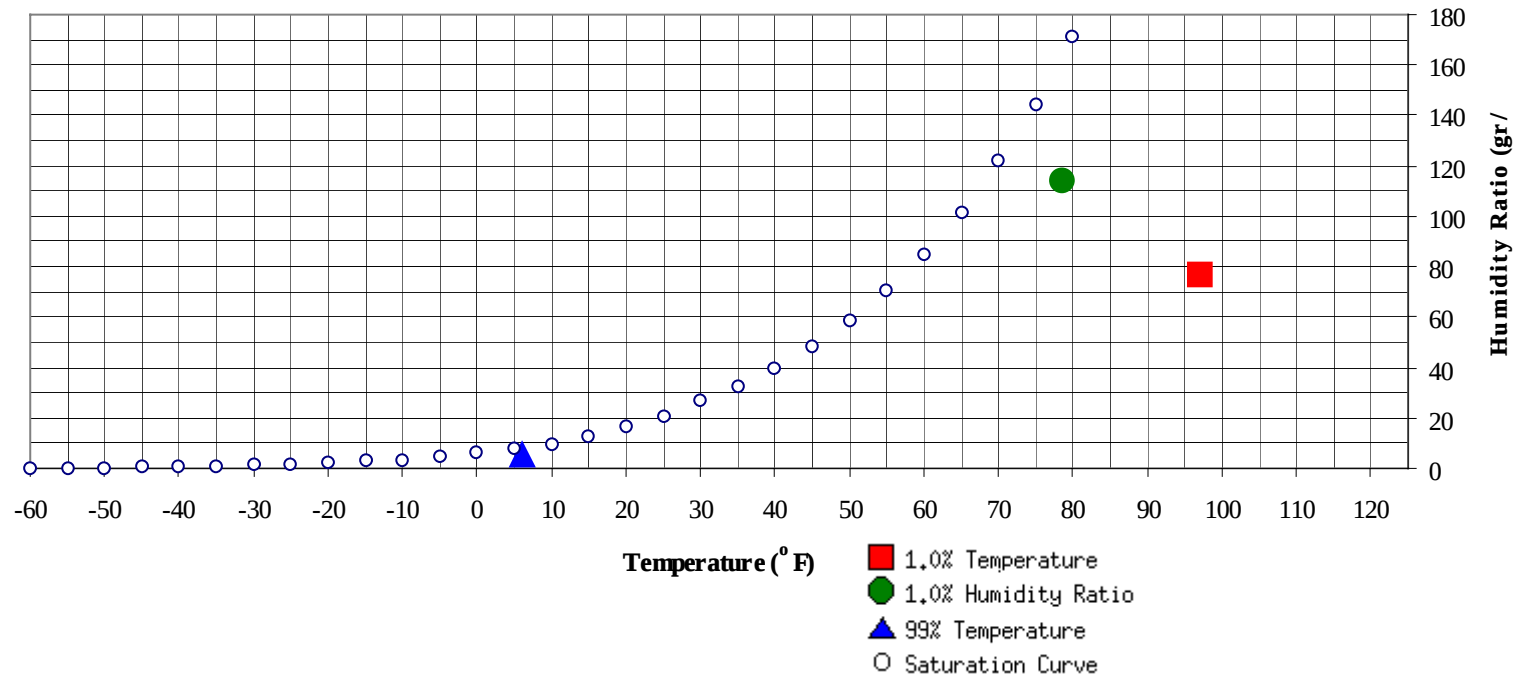


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values

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)
	6	5.8	2.3		114.1	78.6	71.1	68	36.7

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	97	76.7	70	35.4

DODGE CITY(AWOS) KS

WMO No. 724510

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		
105 / 109															
100 / 104															
95 / 99															
90 / 94												0	0	0	60.7
85 / 89												1	0	1	57.3
80 / 84							1	0	1	53.8		4	1	5	55.9
75 / 79		0	0	0	50.0		1	1	2	52.3		8	3	12	53.5
70 / 74		1	0	1	49.0	0	4	1	5	50.0		12	6	18	52.0
65 / 69		3	0	3	47.3	0	9	4	13	47.8	0	17	10	28	50.3
60 / 64		6	2	8	45.4	0	13	6	20	46.0	1	23	16	41	48.4
55 / 59		11	4	15	43.2	0	16	10	25	43.4	7	26	22	54	46.1
50 / 54	0	18	8	27	40.6	2	22	17	41	41.2	15	30	30	75	43.4
45 / 49	2	24	15	40	38.1	7	23	21	51	38.6	24	29	34	87	40.5
40 / 44	7	26	25	58	35.3	22	26	30	78	36.1	40	31	37	108	37.5
35 / 39	26	30	39	94	32.5	33	26	32	91	32.7	46	26	35	107	33.8
30 / 34	47	34	43	123	28.9	48	24	35	107	29.3	51	19	29	99	29.8
25 / 29	51	28	33	111	25.0	37	18	21	76	25.3	30	11	13	55	25.1
20 / 24	39	22	26	88	20.4	25	15	16	55	20.3	17	6	7	30	20.5
15 / 19	25	16	18	58	15.4	17	12	13	43	15.8	8	2	4	14	15.6
10 / 14	23	14	18	54	10.7	15	6	8	30	11.2	3	1	1	6	10.8
5 / 9	13	10	10	33	5.9	7	3	5	15	6.2	2	0	1	4	5.9
0 / 4	9	4	5	18	1.2	5	3	3	10	1.1	1		0	1	2.1
-5 / -1	4	1	2	7	-3.1	3	1	1	5	-3.2	0			0	-3.2
-10 / -6	2	1	1	4	-7.2	2	0	0	3	-7.3					
-15 / -11	1	0	0	1	-11.7	0	0		1	-12.2					
-20 / -16															
-25 / -21															

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.

DODGE CITY(AWOS) KS

WMO No. 724510

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		
105 / 109												1	0	1	70.9
100 / 104							0	0	0	63.7		5	2	7	69.7
95 / 99		0	0	0	61.0		1	0	1	64.8		16	7	23	69.8
90 / 94		1	0	2	60.5		5	2	6	66.3		28	15	43	69.5
85 / 89		5	2	7	59.3		10	4	14	65.7	0	39	25	64	68.4
80 / 84	0	12	6	18	59.5		27	13	40	64.5	4	48	37	88	66.7
75 / 79	0	17	9	26	57.3	1	39	24	64	62.5	19	40	43	101	65.2
70 / 74	1	25	16	41	55.6	7	44	35	86	60.5	50	30	44	125	63.7
65 / 69	5	31	23	59	53.5	23	41	42	107	58.5	63	16	33	113	61.5
60 / 64	14	35	32	81	51.7	49	36	49	134	56.0	59	10	23	92	58.3
55 / 59	28	32	35	95	49.0	62	24	38	124	52.6	28	5	9	42	53.8
50 / 54	36	30	35	100	45.5	54	11	24	89	48.7	14	1	3	19	49.8
45 / 49	46	22	31	99	42.3	28	6	12	47	44.2	2		0	2	45.5
40 / 44	45	14	25	84	38.3	16	2	5	24	40.3					
35 / 39	34	9	16	60	34.2	5	0	1	7	35.9					
30 / 34	24	4	8	35	30.3	1	0	0	1	32.5					
25 / 29	6	1	1	8	25.6										
20 / 24	2	1	1	3	20.9										
15 / 19	1	0	0	1	16.0										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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DODGE CITY(AWOS) KS

WMO No. 724510

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		
105 / 109		2	1	3	70.9		1	0	1	70.1					
100 / 104		17	7	23	70.5		10	3	13	70.2		1	0	1	69.3
95 / 99		34	17	51	70.3		30	12	42	70.4		9	3	12	67.9
90 / 94	0	47	28	75	70.2		41	23	64	70.1		18	7	25	67.3
85 / 89	1	52	39	92	69.0		45	30	75	69.2		28	13	40	66.4
80 / 84	14	46	49	110	67.6	7	44	47	98	67.8	1	40	24	65	64.7
75 / 79	46	27	45	117	66.3	37	34	48	120	66.3	7	37	34	78	63.3
70 / 74	85	14	39	138	65.3	80	22	42	145	65.3	30	33	38	101	62.0
65 / 69	68	6	17	91	63.2	71	12	27	109	63.1	49	26	40	115	60.0
60 / 64	28	2	6	36	59.6	37	6	13	56	59.2	49	22	33	104	56.3
55 / 59	6	0	1	7	54.8	13	1	4	19	54.9	43	14	24	80	51.9
50 / 54	1		0	1	49.9	3	0	0	3	49.6	31	6	14	51	47.8
45 / 49	0			0	45.5						17	4	7	29	43.4
40 / 44											8	1	3	12	39.5
35 / 39											4	0	1	5	35.2
30 / 34											1	0	0	2	31.6
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															

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DODGE CITY(AWOS) KS

WMO No. 724510

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		
105 / 109															
100 / 104															
95 / 99															
90 / 94		2	0	3	61.2		0		0	58.0					
85 / 89		10	2	11	60.3		0		0	55.3					
80 / 84		17	5	22	59.2		1	0	2	54.8					
75 / 79		22	9	31	57.9		4	0	5	54.5		0		0	52.5
70 / 74	1	34	18	53	56.1		10	2	11	53.1		2		2	50.1
65 / 69	5	33	27	65	54.0	0	15	4	19	50.5		5	0	5	48.1
60 / 64	21	37	39	98	52.7	2	21	11	34	49.6		8	2	10	46.3
55 / 59	37	30	42	109	49.5	6	25	18	49	46.9	0	15	4	19	43.9
50 / 54	49	28	42	119	46.0	13	29	28	70	44.0	1	22	11	34	40.8
45 / 49	54	16	29	99	42.0	22	29	34	85	40.5	5	27	17	49	38.4
40 / 44	36	10	18	64	38.1	35	31	37	103	37.1	12	31	29	72	35.4
35 / 39	25	5	11	41	33.9	44	29	38	110	33.5	29	32	47	108	32.6
30 / 34	13	2	4	19	30.1	51	21	32	104	29.5	54	37	46	137	29.0
25 / 29	4	0	1	6	25.0	33	12	20	65	24.9	59	27	41	127	25.0
20 / 24	1	1	1	3	20.4	18	7	10	34	20.3	35	19	22	75	20.3
15 / 19	1	0	0	1	17.1	10	3	6	18	16.0	23	9	14	46	15.5
10 / 14	0			0	13.0	5	1	2	9	10.9	14	5	8	27	10.8
5 / 9						2	0	1	3	6.3	5	3	3	11	5.9
0 / 4						1		0	1	2.2	6	3	3	11	0.9
-5 / -1											3	2	2	7	-3.5
-10 / -6											1	1	1	3	-6.7
-15 / -11											0	0	0	0	-11.7
-20 / -16											0	0		0	-17.7
-25 / -21											0			0	-21.0

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DODGE CITY(AWOS) KS**WMO No. 724510****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		
105 / 109		4	1	5	70.8
100 / 104		33	12	45	70.2
95 / 99		89	39	129	70.0
90 / 94	0	142	75	217	69.4
85 / 89	1	188	114	304	67.8
80 / 84	25	238	182	445	65.8
75 / 79	109	228	216	553	63.9
70 / 74	252	230	241	723	62.1
65 / 69	283	213	227	723	58.8
60 / 64	261	220	230	711	54.5
55 / 59	229	199	208	636	49.8
50 / 54	219	198	212	629	45.2
45 / 49	207	181	201	589	41.0
40 / 44	223	174	209	606	37.1
35 / 39	247	158	221	627	33.3
30 / 34	291	142	198	631	29.4
25 / 29	220	98	132	451	25.0
20 / 24	138	70	83	291	20.4
15 / 19	85	42	56	182	15.6
10 / 14	61	28	37	126	10.8
5 / 9	29	17	20	66	6.0
0 / 4	22	10	11	42	1.1
-5 / -1	10	4	6	19	-3.3
-10 / -6	6	2	2	9	-7.1
-15 / -11	2	0	0	2	-11.8
-20 / -16	0	0		0	-17.7
-25 / -21	0			0	-21.0

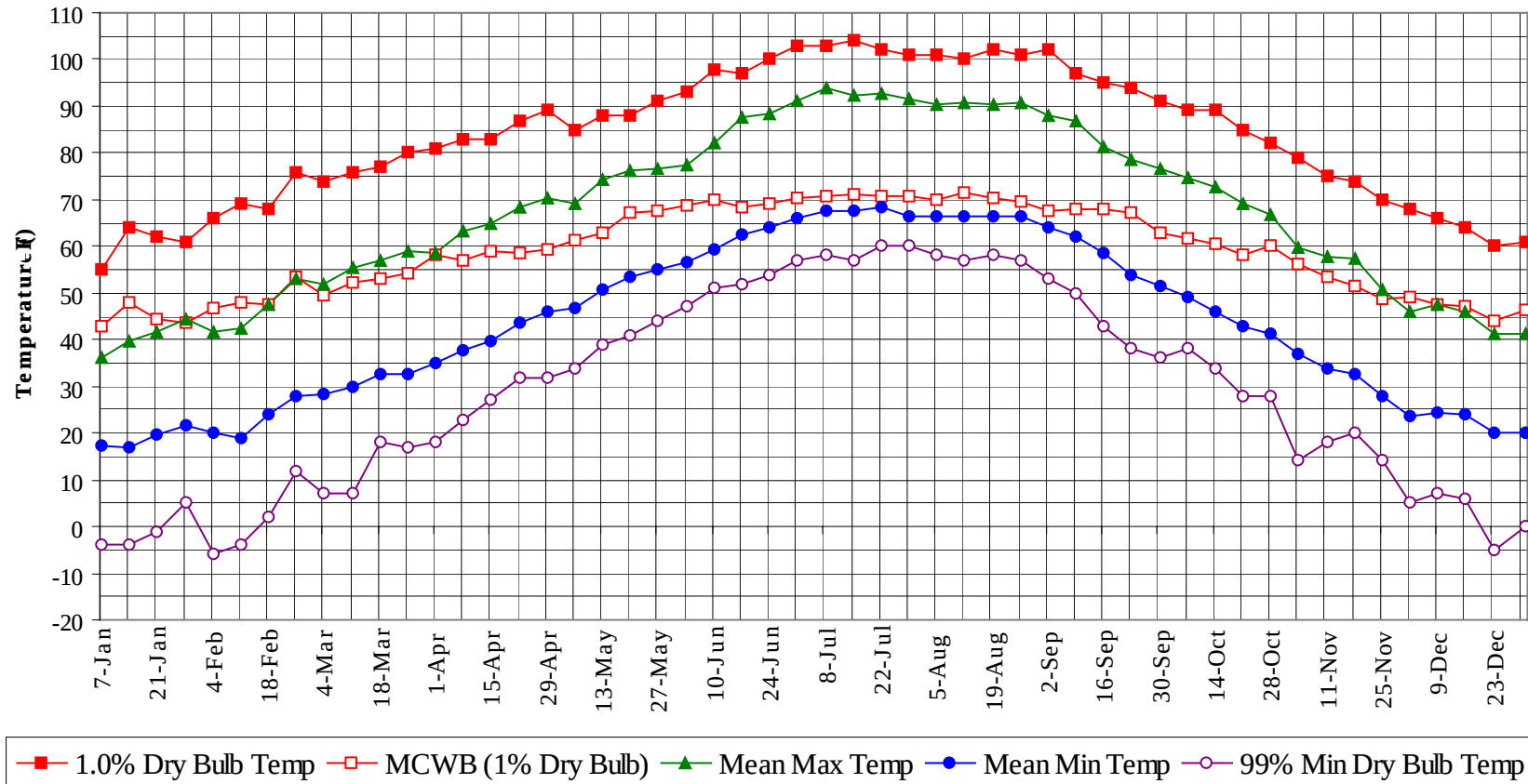
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DODGE CITY(AWOS)

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Annual Summary of Temperatures

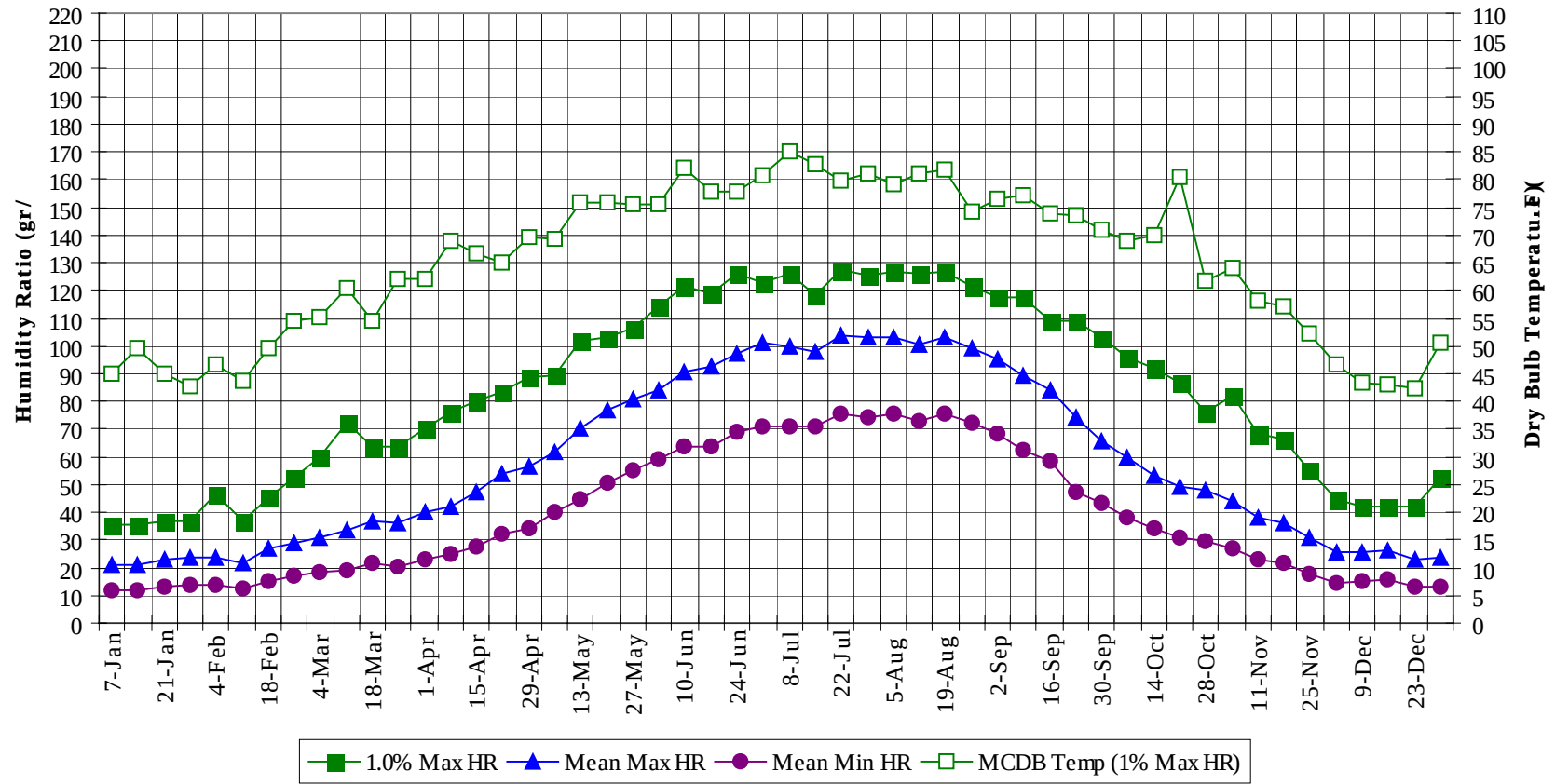


DODGE CITY(AWOS)

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Long Term Humidity and Dry Bulb Temperature Summary



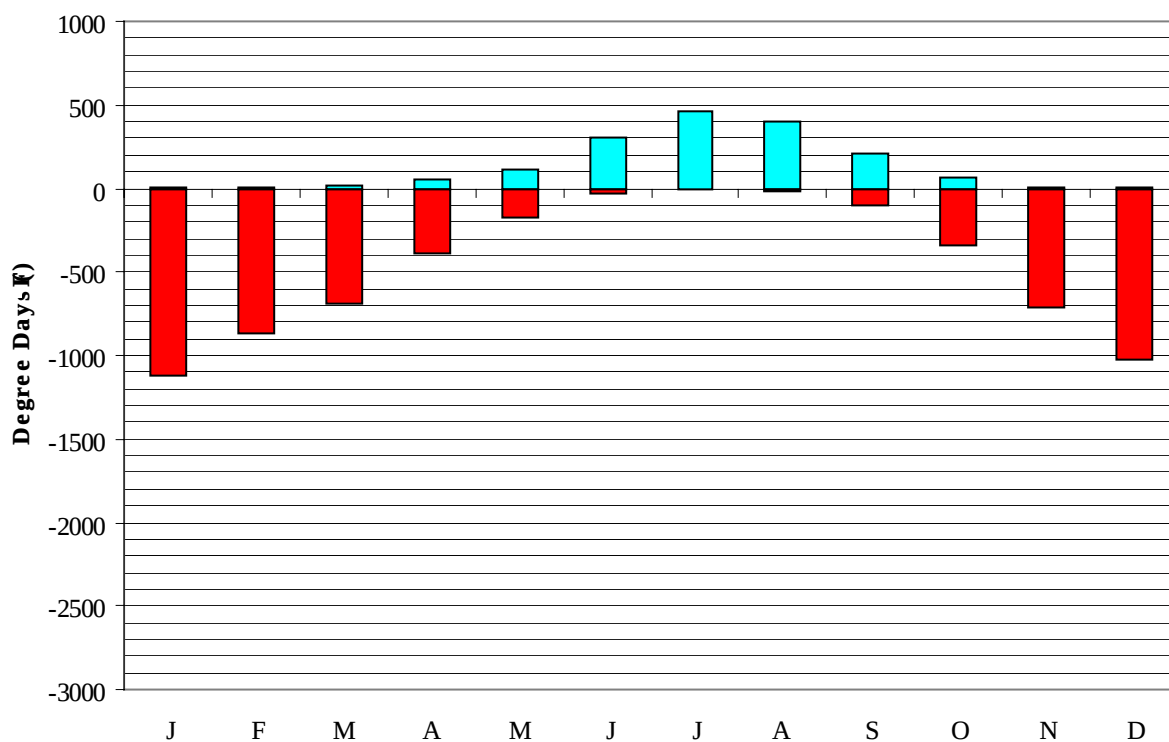
DODGE CITY(AWOS) KS**WMO No. 724510****Long Term Dry Bulb Temperature and Humidity Summary**

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	42.7	36.0	17.3	-4.0	35.7	45.1	21.0	12.0
14-Jan	64.0	47.9	39.6	17.1	-4.0	35.7	49.5	20.9	11.7
21-Jan	62.0	44.4	41.5	19.6	-1.0	37.1	45.0	23.3	13.4
28-Jan	61.0	43.4	44.3	21.8	5.0	37.1	42.7	23.8	13.8
4-Feb	66.0	46.9	41.6	19.9	-6.0	46.9	46.8	23.8	14.0
11-Feb	69.0	48.1	42.4	19.0	-4.0	37.1	43.8	22.0	12.7
18-Feb	68.0	47.7	47.6	24.2	2.0	45.5	49.6	27.2	15.4
25-Feb	76.0	53.6	53.0	28.1	12.0	52.5	54.6	28.8	17.2
4-Mar	74.0	49.6	51.9	28.2	7.0	59.5	55.2	30.9	18.2
11-Mar	76.0	52.4	55.4	29.8	7.0	72.1	60.5	33.4	19.2
18-Mar	77.0	53.0	56.9	32.5	18.0	63.7	54.6	36.6	21.5
25-Mar	80.0	54.4	58.8	32.7	17.0	63.7	62.0	36.1	20.2
1-Apr	81.0	58.1	58.7	34.8	18.0	70.0	62.2	40.3	22.8
8-Apr	83.0	57.1	63.1	37.6	23.0	76.3	69.1	42.1	24.7
15-Apr	83.0	58.9	65.0	39.7	27.0	79.8	66.6	47.4	27.9
22-Apr	87.0	58.7	68.5	43.7	32.0	83.3	65.1	53.6	32.5
29-Apr	89.0	59.3	70.4	45.8	32.0	88.9	69.8	56.3	34.4
6-May	85.0	61.4	69.0	46.9	34.0	89.6	69.2	61.7	40.3
13-May	88.0	63.0	74.2	50.6	39.0	101.5	75.9	70.6	44.6
20-May	88.0	67.2	76.2	53.4	41.0	102.9	75.8	76.6	50.7
27-May	91.0	67.4	76.7	55.0	44.0	106.4	75.6	80.7	55.2
3-Jun	93.0	68.8	77.5	56.4	47.0	114.1	75.5	84.3	58.9
10-Jun	98.0	70.0	82.3	59.2	51.0	121.8	82.0	90.3	63.6
17-Jun	97.0	68.2	87.7	62.6	52.0	119.0	77.7	92.3	63.7
24-Jun	100.0	69.1	88.4	64.0	54.0	126.0	77.8	97.4	69.3
1-Jul	103.0	70.5	91.0	65.9	57.0	122.5	80.7	101.2	71.1
8-Jul	103.0	70.6	93.8	67.4	58.0	126.0	85.1	100.1	71.1
15-Jul	104.0	71.0	92.5	67.6	57.0	118.3	82.8	97.9	70.9
22-Jul	102.0	70.6	92.6	68.3	60.0	127.4	79.7	103.9	75.8
29-Jul	101.0	70.9	91.4	66.5	60.0	125.3	81.2	103.0	74.4
5-Aug	101.0	69.9	90.2	66.6	58.0	126.7	79.1	102.8	75.7
12-Aug	100.0	71.6	90.9	66.4	57.0	126.0	81.0	100.3	73.1
19-Aug	102.0	70.4	90.3	66.3	58.0	126.7	81.7	103.2	75.5
26-Aug	101.0	69.4	90.6	66.4	57.0	121.8	74.1	99.1	72.0
2-Sep	102.0	67.6	87.9	64.2	53.0	117.6	76.4	95.1	68.4
9-Sep	97.0	67.9	86.7	62.0	50.0	117.6	77.2	89.3	62.1
16-Sep	95.0	67.9	81.2	58.5	43.0	109.2	74.0	84.3	58.7
23-Sep	94.0	67.1	78.5	53.7	38.0	109.2	73.7	74.1	47.5
30-Sep	91.0	62.8	76.6	51.5	36.0	102.9	71.0	65.7	43.7
7-Oct	89.0	61.8	74.6	49.2	38.0	95.9	68.9	59.8	38.2
14-Oct	89.0	60.3	72.7	45.8	34.0	91.7	70.0	53.3	34.1
21-Oct	85.0	58.2	69.2	42.8	28.0	86.8	80.3	49.5	30.8
28-Oct	82.0	60.0	66.6	41.1	28.0	76.3	61.8	47.8	29.7
4-Nov	79.0	56.0	59.9	37.1	14.0	81.9	64.1	44.2	27.1
11-Nov	75.0	53.3	57.7	33.9	18.0	68.6	58.3	38.1	23.1
18-Nov	74.0	51.7	57.2	32.8	20.0	66.5	57.1	36.2	21.4
25-Nov	70.0	48.9	50.9	27.8	14.0	55.3	52.2	30.6	17.8
2-Dec	68.0	49.1	46.1	23.8	5.0	44.8	46.8	25.7	14.5
9-Dec	66.0	47.5	47.5	24.3	7.0	42.0	43.4	25.7	15.0
16-Dec	64.0	47.0	46.2	24.0	6.0	42.0	43.0	26.6	15.5
23-Dec	60.0	44.0	41.3	20.1	-5.0	42.0	42.3	22.9	13.1
31-Dec	61.0	46.2	41.4	19.9	0.0	52.5	50.5	23.7	13.5

DODGE CITY(AWOS) KS

WMO No. 724510

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



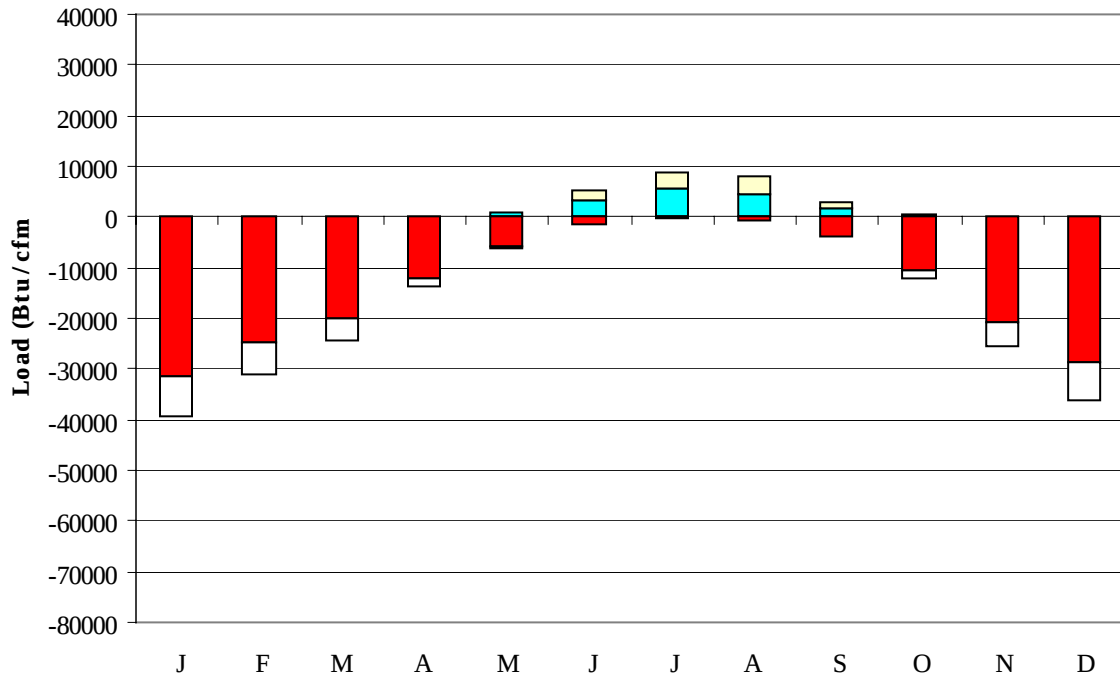
■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	1	1118
FEB	4	867
MAR	17	687
APR	50	389
MAY	113	171
JUN	304	35
JUL	461	6
AUG	398	13
SEP	204	107
OCT	63	338
NOV	8	718
DEC	1	1021
ANN	1624	5470

DODGE CITY(AWOS) KS

WMO No. 724510

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

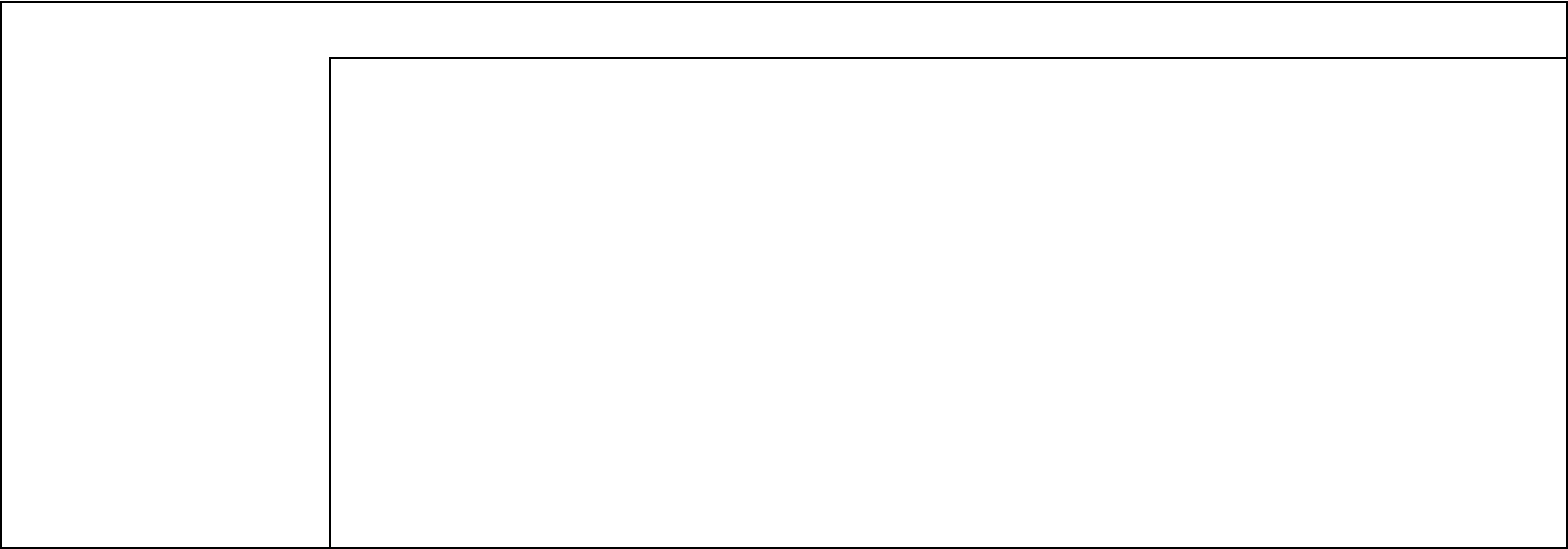


■ Average Sensible Cooling Load	■ Average Sensible Heating Load
■ Average Latent Cooling (Drying) Load	■ Average Latent Heating (Humidifying) Load

	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	0	-31384	0	-8124
FEB	9	-24618	0	-6355
MAR	68	-20049	1	-4374
APR	302	-12021	9	-1807
MAY	730	-5944	379	-158
JUN	3146	-1538	2138	-16
JUL	5566	-394	3408	0
AUG	4491	-708	3479	-3
SEP	1899	-3826	991	-173
OCT	402	-10667	41	-1581
NOV	19	-20865	0	-4564
DEC	0	-28854	0	-7407
ANN	16632	-160868	10446	-34562

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

No Solar Radiation
Data Available

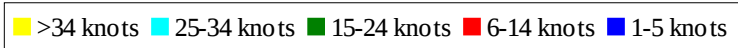
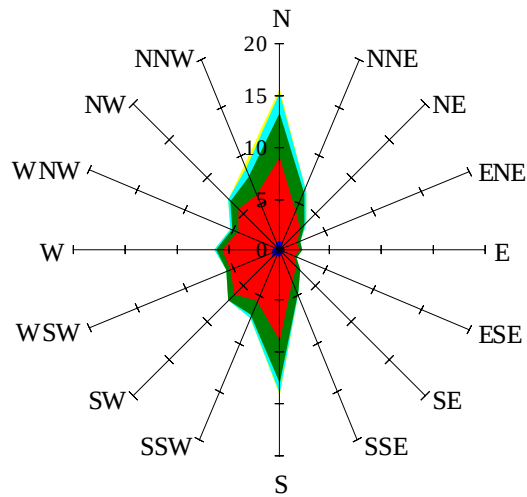


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

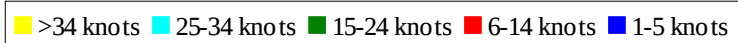
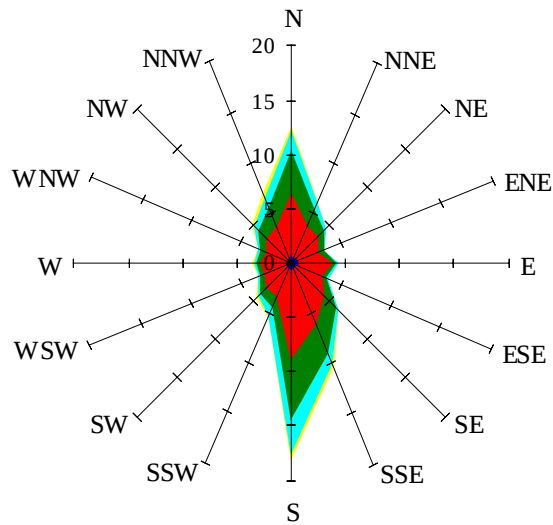
Labels of Percent Frequency on North Axis



Percent Calm = 1.28

Wind Summary - March, April, and May

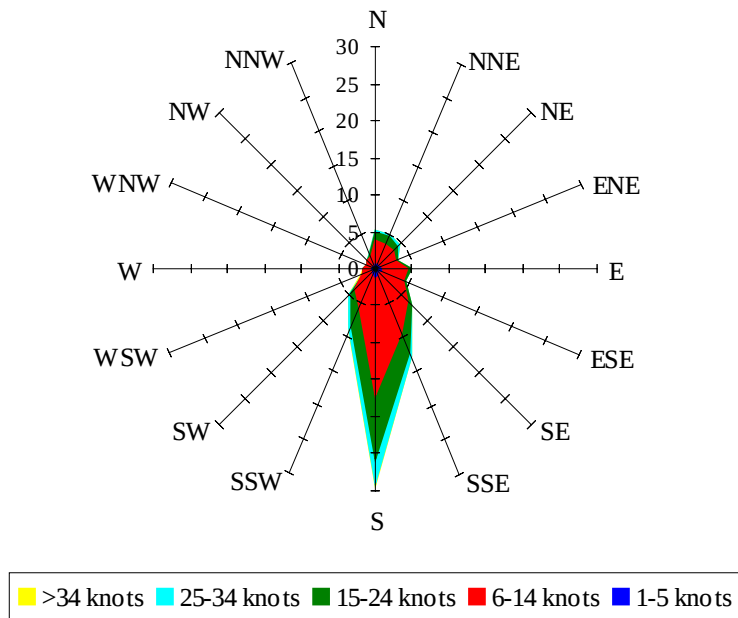
Labels of Percent Frequency on North Axis



Percent Calm = 0.87

Wind Summary - June, July, and August

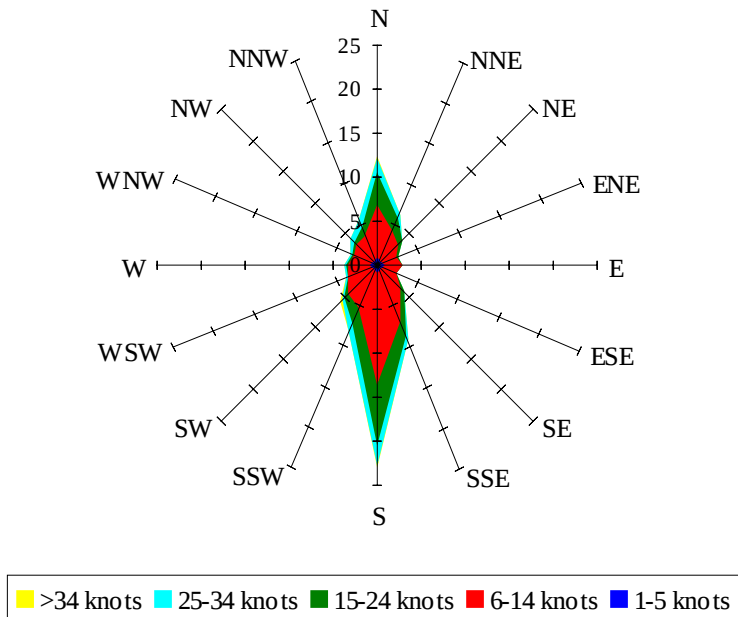
Labels of Percent Frequency on North Axis



Percent Calm = 1.33

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 1.10