

MASON CITY IA

Latitude = 43.15 N

Longitude = 93.33 W

Period of Record = 1973 to 1996

WMO No. 725485

Elevation = 1214 feet

Average Pressure = 28.68 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	97	76	105	15.7	SSW
0.4% Occurrence	92	75	108	14.5	S
1.0% Occurrence	88	73	104	13.8	S
2.0% Occurrence	85	71	100	12.9	S
Mean Daily Range	19	-	-	-	-
97.5% Occurrence	-3	-4	3	11.4	WNW
99.0% Occurrence	-10	-10	2	11.5	WNW
99.6% Occurrence	-16	-16	1	12.1	WNW
Median of Extreme Lows	-21	-21	1	10.7	WNW
	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	90	149	12.4	S
0.4% Occurrence	78	88	134	12.3	S
1.0% Occurrence	76	85	125	12.2	S
2.0% Occurrence	74	82	118	11.6	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	158	87	1.00	11.1	S
0.4% Occurrence	138	84	0.88	11.4	S
1.0% Occurrence	129	82	0.82	10.5	S
2.0% Occurrence	120	80	0.77	10.7	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		25	507	276	957

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
5	3.5	90	1.5 + 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 (#)
48.0	N/A	N/A	66

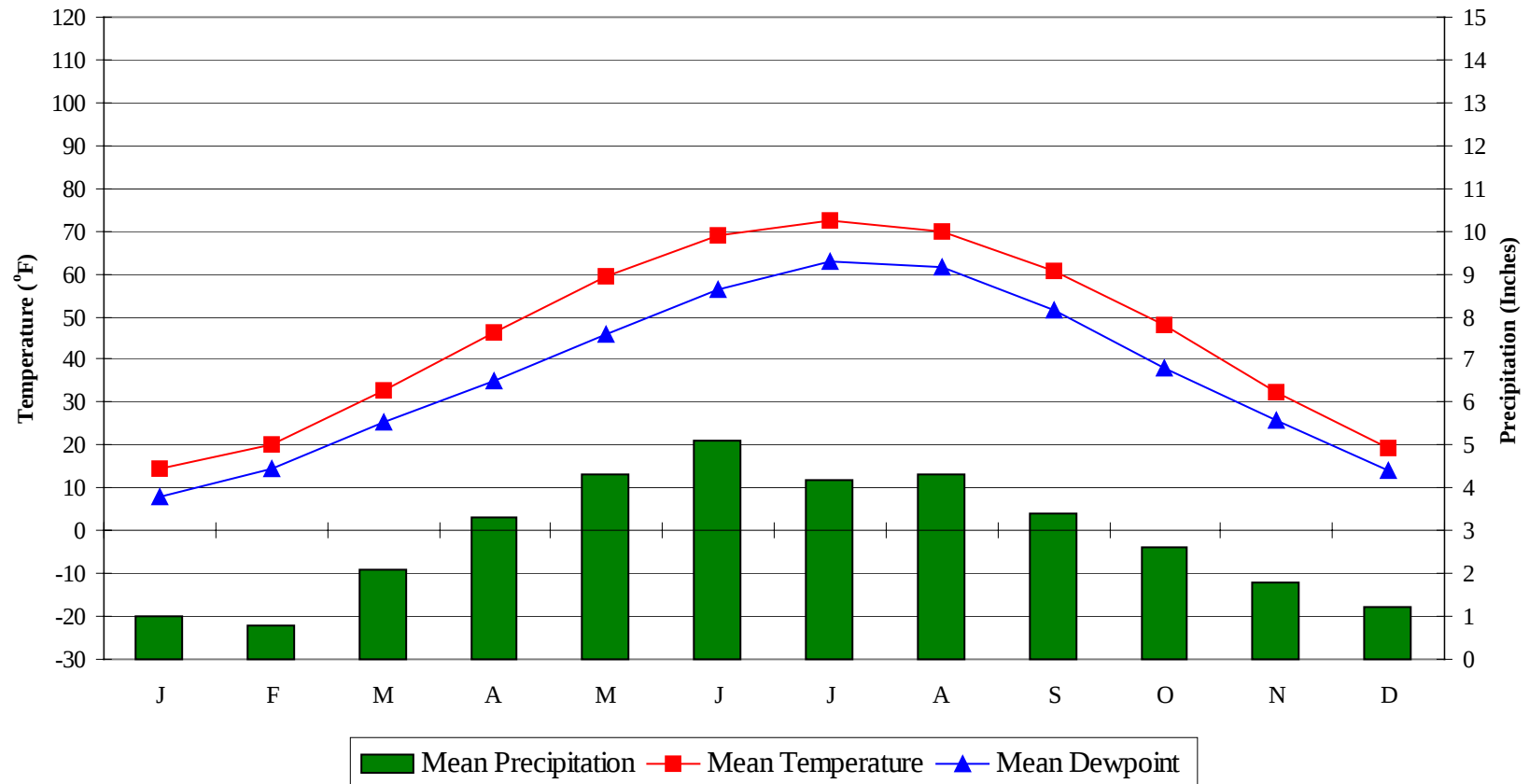
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

MASON CITY

IA

WMO No. 725485

Average Annual Climate

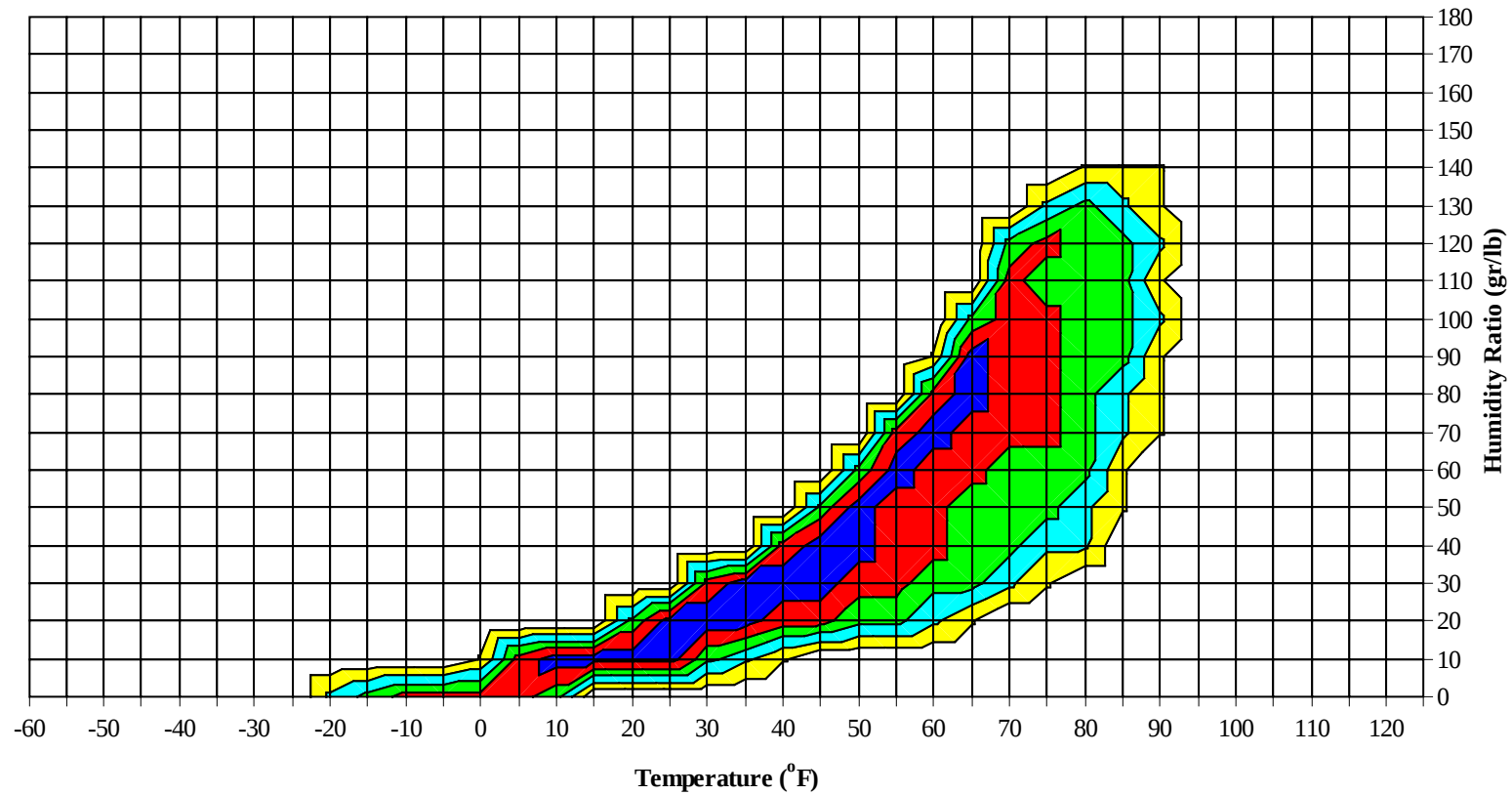


MASON CITY

IA

WMO No. 725485

Long Term Psychrometric Summary



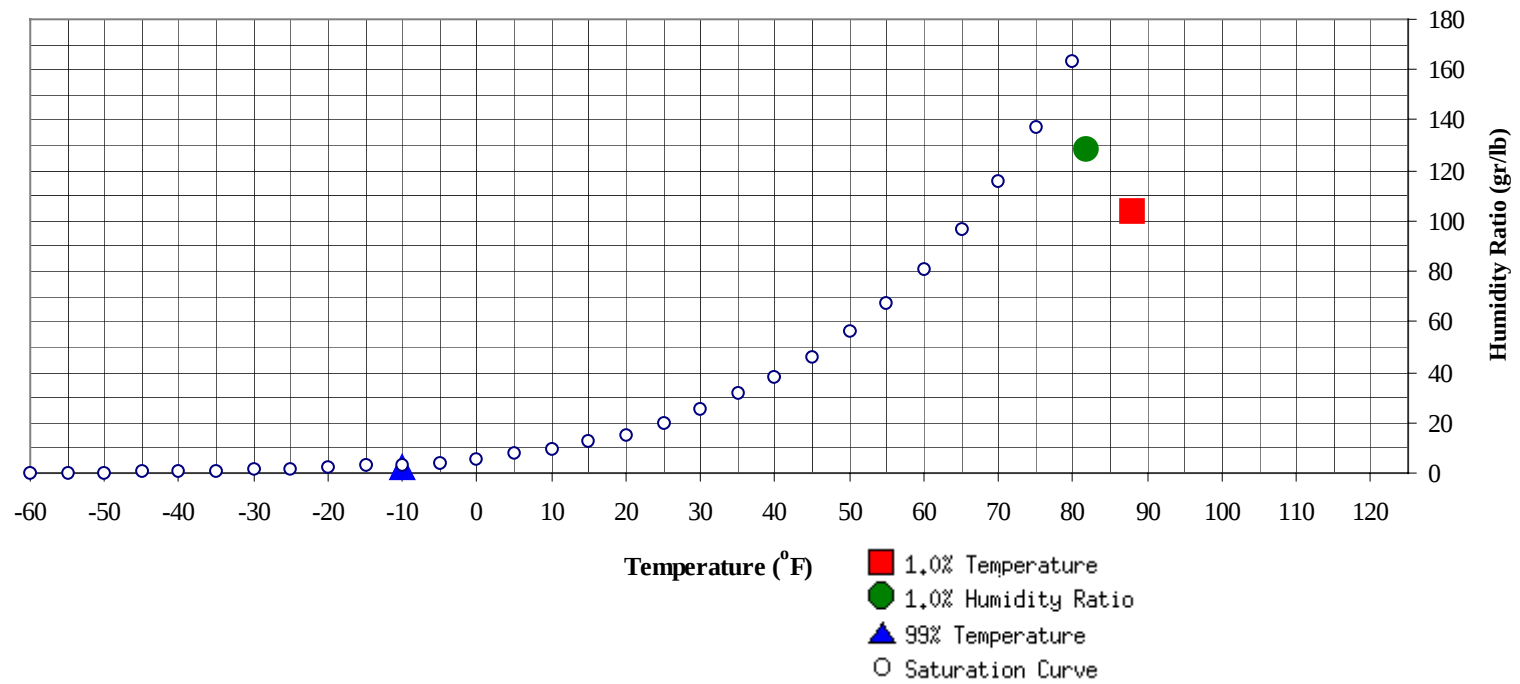
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

MASON CITY

IA

WMO No. 725485

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)
	-10	2.1	-2.1		128.8	81.9	75.5	73.1	39.8

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	103.6	72.9	37.4

MASON CITY IA

WMO No. 725485

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															
95 / 99															
90 / 94															
85 / 89															
80 / 84												0	0	0	62.7
75 / 79												1	0	1	61.7
70 / 74												1	0	1	58.4
65 / 69							0		0	52.0		3	1	4	55.5
60 / 64							1		1	48.3	0	6	2	8	52.6
55 / 59		0		0	44.8		2	0	2	46.7	2	10	6	18	49.6
50 / 54		1		1	41.4		2	1	3	43.8	4	16	10	30	45.7
45 / 49		2	0	2	40.0	0	4	2	6	40.8	9	22	17	48	42.2
40 / 44	1	5	2	8	37.0	2	12	6	20	37.4	14	33	25	72	38.0
35 / 39	5	16	12	33	33.6	10	28	22	60	34.0	34	48	45	128	34.2
30 / 34	27	32	31	90	30.3	35	40	45	120	30.3	70	45	60	175	30.2
25 / 29	26	30	32	88	25.4	33	26	30	89	25.6	42	26	36	105	25.1
20 / 24	30	35	30	95	20.6	29	28	27	84	20.5	28	15	17	60	20.6
15 / 19	30	27	26	83	15.9	25	22	21	68	15.8	17	10	11	38	15.7
10 / 14	26	26	25	77	10.8	20	21	19	60	10.8	12	6	7	25	10.9
5 / 9	24	23	23	70	5.9	16	15	19	50	5.9	5	3	5	13	6.0
0 / 4	23	20	21	64	1.0	20	11	14	45	1.2	5	2	3	10	1.4
-5 / -1	14	11	15	40	-3.3	11	5	7	23	-3.0	3	0	1	4	-2.9
-10 / -6	17	11	15	43	-7.6	10	4	6	20	-7.4	2		1	3	-6.8
-15 / -11	14	6	8	28	-12.2	7	2	3	12	-12.0	0		0	0	-11.0
-20 / -16	7	3	4	14	-16.9	4	1	2	7	-17.0	0			0	-15.8
-25 / -21	5	1	2	8	-21.5	2	0	0	2	-21.3					
-30 / -26	1	0	0	1	-25.6	0	0	0	0	-26.8					
-35 / -31						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.

MASON CITY IA

WMO No. 725485

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	0	73.5
95 / 99												2	1	3	73.3
90 / 94		1	0	1	64.3		1	0	1	68.7		10	3	13	72.9
85 / 89		1	0	1	63.6		7	2	9	67.5	0	25	11	36	70.7
80 / 84		4	1	5	62.3	0	17	7	24	64.6	2	43	22	67	67.7
75 / 79		8	3	11	60.6	1	27	14	42	62.2	10	49	34	93	65.7
70 / 74	0	10	6	16	58.3	4	39	24	67	59.8	30	48	47	125	63.8
65 / 69	2	17	9	28	55.0	15	42	35	92	58.0	52	34	50	136	61.1
60 / 64	8	27	17	52	52.2	36	41	44	121	55.1	61	19	41	121	57.8
55 / 59	9	31	24	64	49.1	44	31	43	118	51.5	46	6	20	72	53.8
50 / 54	19	33	34	87	45.8	51	27	39	117	47.8	25	2	10	37	49.2
45 / 49	35	34	40	110	42.4	47	10	25	82	43.6	11	0	2	13	45.0
40 / 44	44	32	38	115	38.6	30	4	10	44	39.1	4	0	0	4	41.0
35 / 39	47	22	32	102	34.2	14	0	4	18	34.4	0			0	37.5
30 / 34	47	12	23	82	30.1	6	0	1	7	30.1					
25 / 29	16	4	7	27	25.3	1			1	26.2					
20 / 24	8	2	3	13	20.8										
15 / 19	3	1	1	5	16.0										
10 / 14	1		0	1	11.0										
5 / 9	0			0	6.8										
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															

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MASON CITY IA

WMO No. 725485

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		1	0	1	76.2										
95 / 99		4	1	5	76.5		2	1	3	76.5		0		0	74.8
90 / 94		18	6	24	75.2		10	2	12	76.3		3	1	4	73.6
85 / 89	0	40	16	56	73.3		27	9	36	74.6		9	2	11	71.5
80 / 84	5	59	34	98	71.1	2	48	21	71	71.2	0	22	7	29	68.8
75 / 79	23	60	47	130	68.7	11	62	39	112	69.0	2	27	13	42	66.3
70 / 74	53	42	55	150	66.6	37	54	55	146	66.7	12	40	26	78	64.1
65 / 69	63	17	45	125	63.7	62	29	51	141	63.7	21	46	33	100	60.3
60 / 64	58	5	31	94	59.8	63	11	41	114	59.7	38	42	44	124	57.3
55 / 59	33	1	11	45	55.5	40	3	20	63	55.3	44	26	41	111	53.4
50 / 54	12	0	2	14	51.1	24	1	9	34	50.8	45	17	34	96	49.2
45 / 49	1			1	46.9	9		2	11	46.3	35	6	23	64	44.6
40 / 44	0			0	43.0	1		0	1	42.5	23	2	11	36	40.2
35 / 39						0			0	36.0	13	0	4	17	36.0
30 / 34											5		2	7	31.2
25 / 29											1		0	1	27.0
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															

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MASON CITY

IA

WMO No. 725485

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															
90 / 94		0		0	65.8										
85 / 89		1	0	1	64.5										
80 / 84		3	1	4	63.1										
75 / 79		8	2	10	61.1										
70 / 74	0	13	4	17	59.4		1	0	1	58.4					
65 / 69	3	22	10	35	57.3	0	2	0	2	56.6					
60 / 64	10	34	19	63	54.4	1	7	1	9	54.3					
55 / 59	18	41	27	86	50.3	3	11	6	20	51.4	0	1	0	1	54.0
50 / 54	30	46	42	118	46.6	7	19	11	37	46.7	0	1	0	1	49.1
45 / 49	43	37	46	126	42.9	11	23	15	49	42.4	0	3	1	4	41.5
40 / 44	44	23	38	105	38.7	18	30	24	72	38.6	2	6	3	11	38.2
35 / 39	37	13	32	82	34.2	29	35	34	98	34.1	8	21	14	43	34.2
30 / 34	36	5	20	61	30.2	53	45	55	154	30.1	35	47	45	128	30.4
25 / 29	20	1	7	28	25.6	43	28	38	109	25.4	43	43	42	129	25.6
20 / 24	6	0	2	8	21.1	31	17	22	70	20.9	39	33	37	110	20.9
15 / 19	1		0	1	17.0	20	9	13	42	16.0	29	23	30	82	16.2
10 / 14	0			0	12.3	12	7	9	28	11.2	25	22	21	68	11.0
5 / 9						6	3	6	15	6.6	18	15	16	49	6.2
0 / 4						4	1	3	8	1.4	16	14	13	43	1.2
-5 / -1						2	0	1	3	-2.8	8	6	8	22	-3.1
-10 / -6						1	0	0	1	-6.3	12	6	9	27	-7.3
-15 / -11						0		0	0	-12.6	5	3	5	13	-12.1
-20 / -16						0			0	-15.7	3	1	3	7	-16.9
-25 / -21											3	1	1	5	-21.5
-30 / -26											0		0	0	-25.4
-35 / -31															

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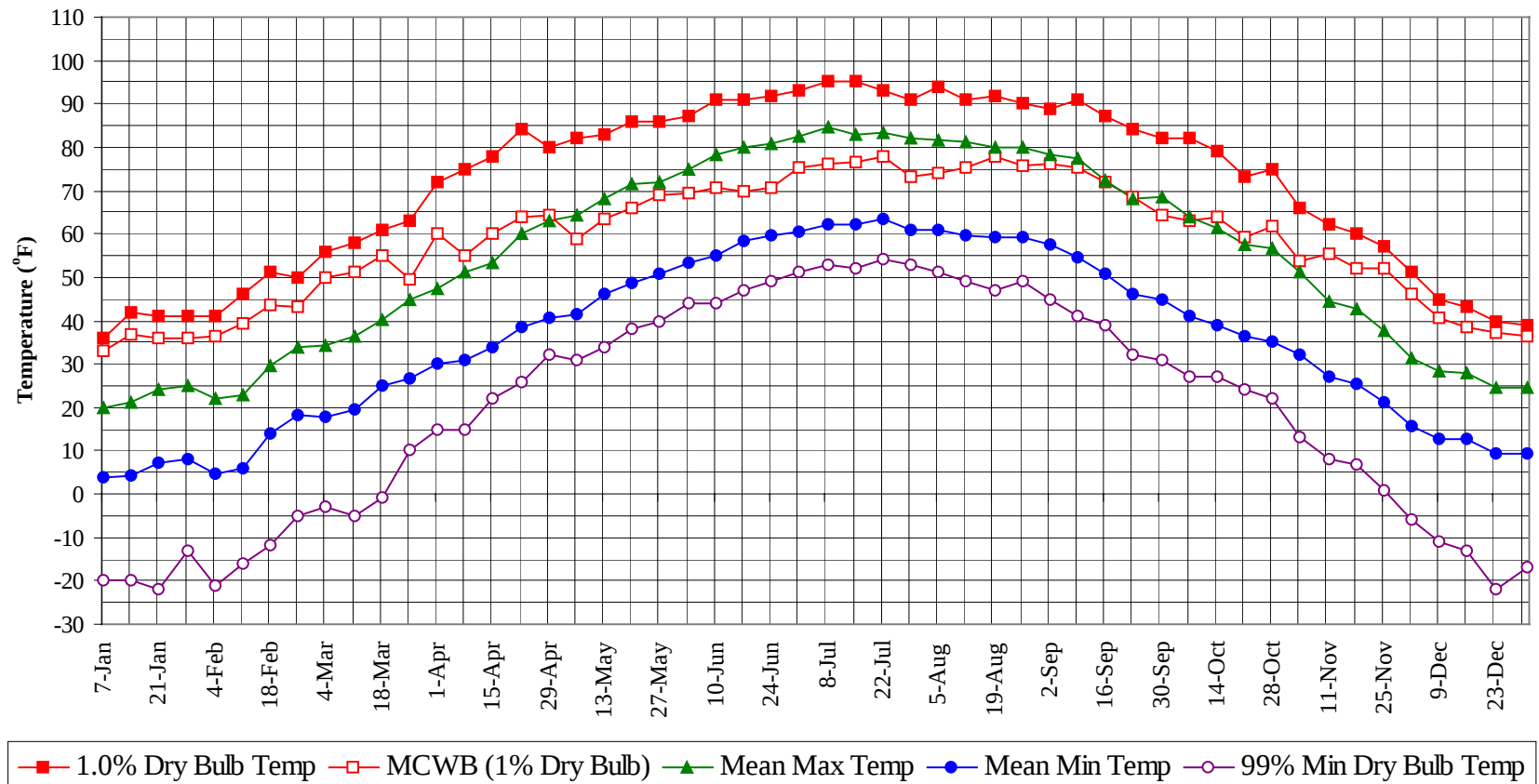
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

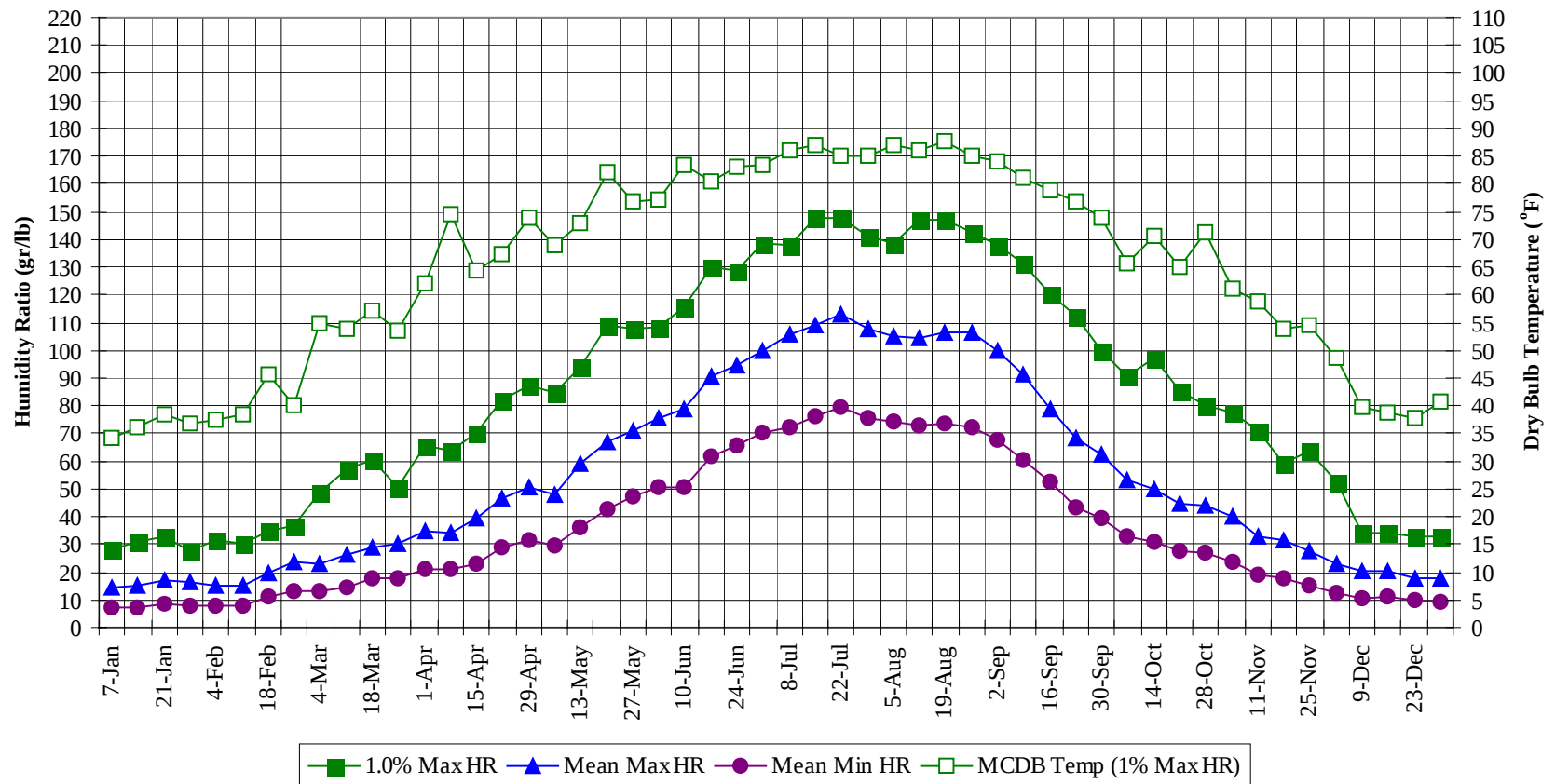
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		1	0	1	75.1
95 / 99		8	2	10	75.7
90 / 94		43	12	55	74.5
85 / 89	0	107	40	147	72.3
80 / 84	9	197	92	297	69.3
75 / 79	46	243	151	439	66.9
70 / 74	136	249	218	602	64.5
65 / 69	218	212	234	663	61.1
60 / 64	274	193	241	707	57.0
55 / 59	240	164	198	601	52.3
50 / 54	216	165	191	571	47.6
45 / 49	202	141	174	517	43.1
40 / 44	183	148	159	490	38.6
35 / 39	198	185	201	583	34.2
30 / 34	312	229	281	823	30.2
25 / 29	225	159	193	577	25.4
20 / 24	170	131	139	440	20.7
15 / 19	126	92	102	320	15.9
10 / 14	97	83	82	262	10.9
5 / 9	70	59	69	198	6.0
0 / 4	69	48	54	171	1.2
-5 / -1	38	24	32	94	-3.1
-10 / -6	43	21	31	95	-7.4
-15 / -11	26	11	17	54	-12.1
-20 / -16	15	5	9	29	-16.9
-25 / -21	9	2	3	14	-21.5
-30 / -26	2	0	0	2	-25.9
-35 / -31	0			0	

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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



MASON CITY

IA

WMO No. 725485

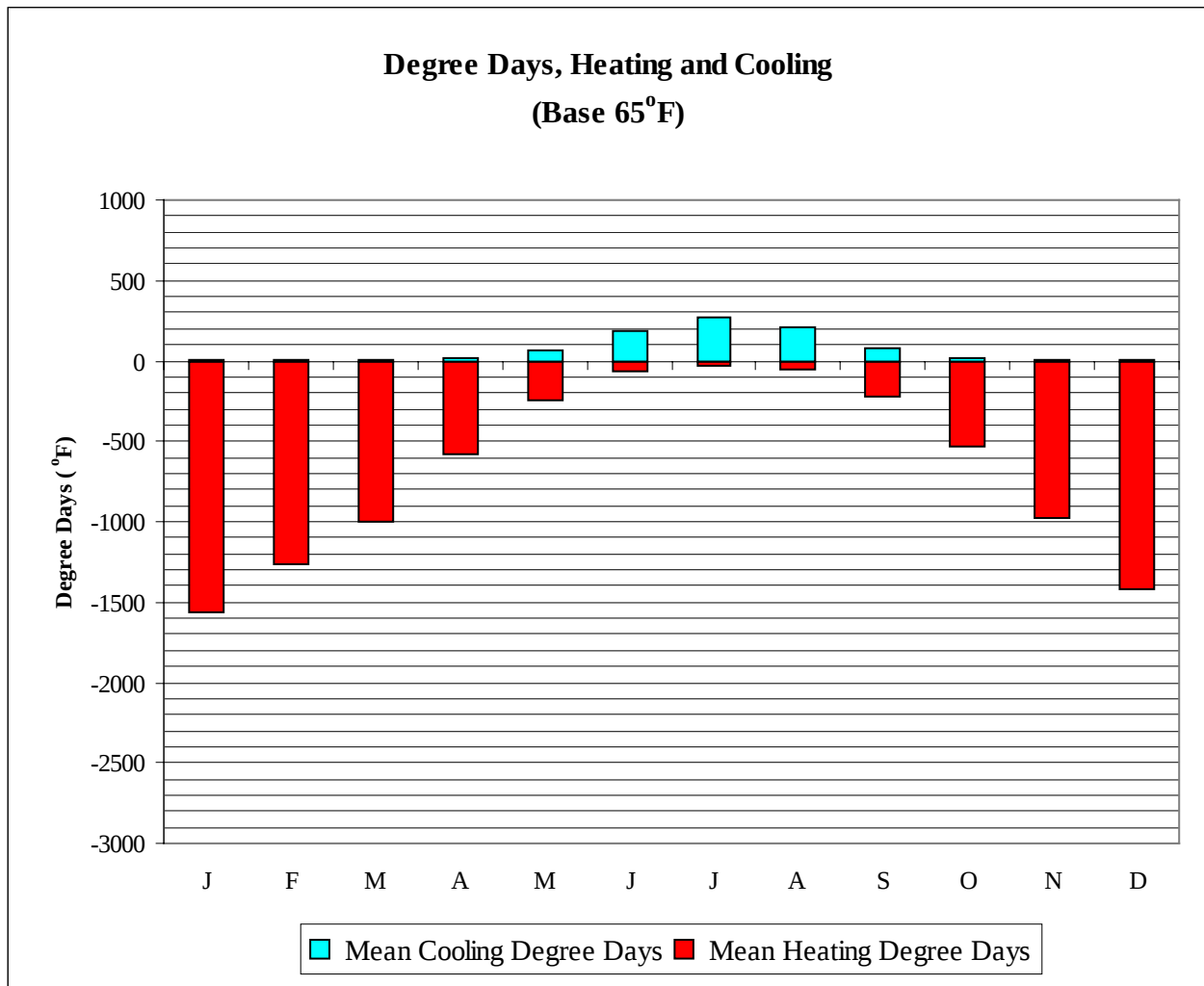
Long Term Dry Bulb Temperature and Humidity Summary

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	36.0	33.1	20.0	3.8	-20.0	28.0	34.2	14.2	7.1
14-Jan	42.0	36.8	21.2	4.3	-20.0	30.8	36.2	14.8	7.4
21-Jan	41.0	35.9	24.2	7.1	-22.0	32.9	38.3	17.1	8.6
28-Jan	41.0	36.1	25.2	7.9	-13.0	27.3	36.8	16.6	7.9
4-Feb	41.0	36.5	21.9	4.8	-21.0	31.5	37.6	15.4	7.9
11-Feb	46.0	39.4	23.1	5.8	-16.0	30.1	38.3	15.4	7.9
18-Feb	51.0	43.7	29.6	14.1	-12.0	35.0	45.7	20.0	11.4
25-Feb	50.0	43.1	33.8	18.2	-5.0	37.1	40.2	23.4	13.3
4-Mar	56.0	50.1	34.4	17.9	-3.0	48.3	55.0	23.3	13.0
11-Mar	58.0	51.4	36.6	19.5	-5.0	57.4	54.0	26.0	14.6
18-Mar	61.0	55.0	40.3	24.8	-1.0	60.2	57.0	29.2	17.5
25-Mar	63.0	49.6	45.0	26.7	10.0	50.4	53.6	30.4	17.9
1-Apr	72.0	60.1	47.4	30.1	15.0	65.8	61.9	35.1	21.2
8-Apr	75.0	55.0	51.1	30.9	15.0	63.7	74.5	34.0	20.7
15-Apr	78.0	60.1	53.5	33.8	22.0	70.0	64.3	39.2	23.3
22-Apr	84.0	64.0	60.1	38.7	26.0	81.9	67.3	46.7	28.6
29-Apr	80.0	64.2	63.2	40.8	32.0	87.5	74.0	50.8	31.6
6-May	82.0	59.0	64.2	41.6	31.0	84.7	69.0	48.0	29.8
13-May	83.0	63.4	68.3	46.0	34.0	93.8	73.0	59.4	36.4
20-May	86.0	66.0	71.5	48.9	38.0	109.2	82.1	66.9	42.6
27-May	86.0	69.1	72.0	50.9	40.0	107.8	76.7	70.9	47.1
3-Jun	87.0	69.5	74.9	53.1	44.0	108.5	77.3	75.4	50.8
10-Jun	91.0	70.6	78.1	55.2	44.0	115.5	83.4	79.0	50.7
17-Jun	91.0	69.9	80.0	58.3	47.0	130.2	80.4	90.9	61.4
24-Jun	92.0	70.7	80.6	59.5	49.0	128.8	83.0	94.6	65.9
1-Jul	93.0	75.3	82.3	60.6	51.0	138.6	83.3	99.6	70.5
8-Jul	95.0	76.1	84.5	62.1	53.0	137.9	86.1	106.0	72.1
15-Jul	95.0	76.6	83.0	62.3	52.0	147.7	86.9	109.0	76.4
22-Jul	93.0	78.0	83.3	63.4	54.0	147.7	85.2	113.3	79.4
29-Jul	91.0	73.4	82.2	61.0	53.0	141.4	85.1	107.4	75.7
5-Aug	94.0	73.9	81.7	60.7	51.0	138.6	87.1	104.9	74.5
12-Aug	91.0	75.4	81.2	59.6	49.0	147.0	86.0	104.3	73.2
19-Aug	92.0	77.9	80.1	59.4	47.0	147.0	87.8	106.6	73.5
26-Aug	90.0	75.9	80.0	59.4	49.0	142.8	85.0	106.6	72.0
2-Sep	89.0	76.0	78.3	57.6	45.0	137.9	84.1	99.7	67.7
9-Sep	91.0	75.4	77.4	54.7	41.0	131.6	81.0	91.0	60.3
16-Sep	87.0	72.0	72.3	50.9	39.0	120.4	78.8	78.8	52.5
23-Sep	84.0	68.7	68.3	46.2	32.0	112.0	76.7	68.2	43.4
30-Sep	82.0	64.5	68.6	44.9	31.0	100.1	74.0	62.1	39.6
7-Oct	82.0	63.0	63.8	41.2	27.0	90.3	65.7	53.2	33.0
14-Oct	79.0	63.7	61.3	39.0	27.0	97.3	70.7	49.6	30.7
21-Oct	73.0	59.4	57.7	36.3	24.0	85.4	64.9	44.9	27.4
28-Oct	75.0	61.9	56.8	35.2	22.0	79.8	71.4	44.0	26.7
4-Nov	66.0	53.9	51.2	32.4	13.0	77.7	61.0	39.9	23.8
11-Nov	62.0	55.5	44.6	27.0	8.0	70.7	58.9	32.7	19.0
18-Nov	60.0	52.1	42.9	25.3	7.0	58.8	53.7	31.3	17.8
25-Nov	57.0	52.1	37.7	21.3	1.0	63.7	54.7	27.6	15.3
2-Dec	51.0	46.3	31.1	15.5	-6.0	52.5	48.5	22.8	12.3
9-Dec	45.0	40.8	28.2	12.8	-11.0	34.3	39.8	20.2	10.6
16-Dec	43.0	38.7	27.9	12.6	-13.0	34.3	38.6	20.2	10.9
23-Dec	40.0	37.1	24.5	9.4	-22.0	32.9	37.6	17.9	9.6
31-Dec	39.0	36.5	24.6	9.5	-17.0	32.9	40.8	17.8	9.3

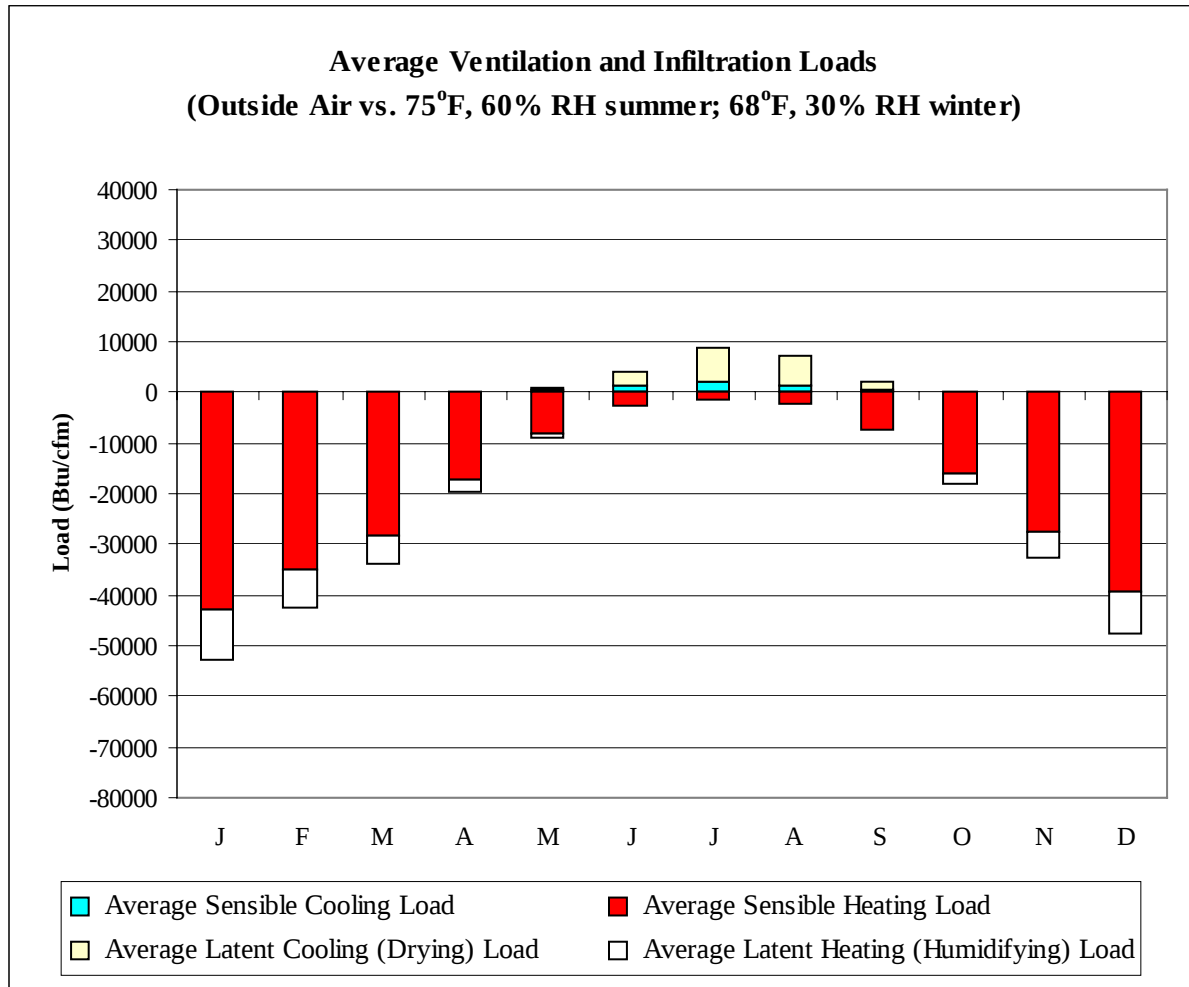
MASON CITY

IA

WMO No. 725485



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1567
FEB	0	1267
MAR	1	1004
APR	17	581
MAY	71	251
JUN	188	70
JUL	270	32
AUG	205	59
SEP	82	216
OCT	15	538
NOV	0	977
DEC	0	1421
ANN	850	7983



	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	-43019	0	-9797
FEB	0	-35029	0	-7564
MAR	4	-28418	0	-5215
APR	84	-17227	15	-2277
MAY	369	-8286	501	-537
JUN	1388	-2811	2803	-14
JUL	2208	-1489	6680	0
AUG	1400	-2409	5878	-3
SEP	468	-7240	1611	-168
OCT	52	-16213	67	-1756
NOV	0	-27659	0	-5029
DEC	0	-39247	0	-8548
ANN	5973	-229047	17555	-40908

Average Annual Solar Radiation – Nearest Available Site

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

City: MASON CITY
 State: IA
 WBAN No: 14940
 Lat(N): 43.15
 Long(W): 93.33
 Elev(ft): 1224

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.624
 Vert Gap: 0.33

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	590	860	1170	1490	1830	2010	2000	1740	1350	960	580	480	1260
	Std Dev	44	58	107	123	108	125	110	106	114	79	46	41	39
	Minimum	510	710	950	1230	1520	1770	1780	1530	1070	770	460	420	1180
	Maximum	680	970	1370	1790	1990	2250	2250	1940	1580	1130	680	570	1350
	Diffuse	300	430	590	700	800	840	790	700	560	410	310	270	560
Clear Day	Global	790	1150	1650	2160	2510	2650	2550	2230	1770	1240	830	670	1680
NORTH	Global	190	260	350	440	550	630	600	480	360	270	190	160	370
	Diffuse	190	260	350	430	500	540	520	450	360	270	190	160	350
Clear Day	Global	160	230	310	410	580	690	640	460	340	240	170	150	370
EAST	Global	420	580	740	890	1050	1140	1130	1010	830	640	400	340	760
	Diffuse	230	330	430	510	600	640	620	560	450	330	230	200	430
Clear Day	Global	630	850	1120	1350	1480	1520	1480	1360	1160	890	650	560	1090
SOUTH	Global	1060	1160	1100	990	920	870	910	1030	1140	1170	900	870	1010
	Diffuse	350	440	510	540	580	590	590	560	500	420	330	310	480
Clear Day	Global	1870	1990	1890	1520	1190	1050	1100	1350	1690	1870	1830	1770	1590
WEST	Global	420	570	720	880	1050	1140	1160	1050	860	630	400	340	770
	Diffuse	230	330	430	520	610	650	640	570	450	340	240	200	430
Clear Day	Global	630	850	1120	1350	1480	1520	1480	1360	1160	890	650	560	1090

Average Annual Solar Heat and Illumination – Nearest Available Site

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

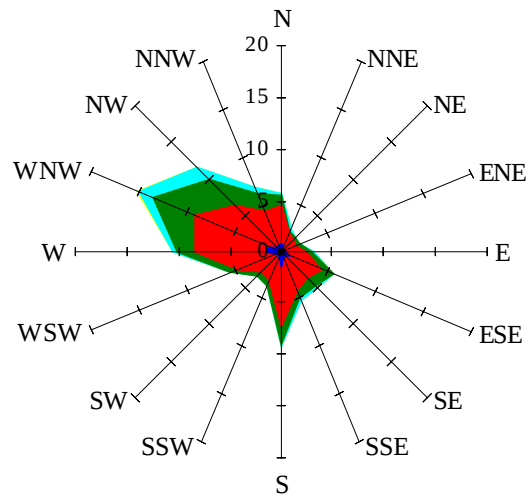
AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	370	580	820	1060	1320	1460	1450	1250	960	660	380	300	890
NORTH	Unshaded	130	180	240	300	360	410	390	320	250	190	130	110	250
	Shaded	110	160	210	260	320	360	340	280	220	160	110	94	220
EAST	Unshaded	290	400	520	640	750	810	800	720	590	450	270	230	540
	Shaded	250	350	440	530	620	660	660	590	490	390	240	200	450
SOUTH	Unshaded	800	860	780	660	580	530	560	660	780	850	680	650	700
	Shaded	780	780	600	400	350	360	350	380	530	730	640	630	540
WEST	Unshaded	290	400	510	630	750	810	830	750	610	440	280	230	540
	Shaded	260	350	430	520	610	660	680	620	520	380	240	200	460

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	33	65	76	62	27	45	80	98	94	70
	M.Cloudy	20	42	51	39	18	29	54	68	68	50
NORTH	M.Clear	9	13	14	13	8	17	16	17	17	15
	M.Cloudy	8	15	17	14	8	13	17	19	19	16
EAST	M.Clear	70	58	14	13	8	77	74	35	17	15
	M.Cloudy	23	30	17	14	8	36	45	28	19	16
SOUTH	M.Clear	37	74	87	71	31	11	34	52	48	26
	M.Cloudy	15	35	45	32	14	11	26	37	37	22
WEST	M.Clear	9	13	18	63	65	11	16	17	47	77
	M.Cloudy	8	15	19	30	23	11	17	19	37	49
M.Clear	(% hrs)	32	32	28	27	29	41	42	37	33	35

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	23	60	80	75	48	8	33	41	25	2
	M.Cloudy	13	36	50	49	31	6	21	25	16	2
NORTH	M.Clear	7	13	15	15	11	4	9	10	7	1
	M.Cloudy	6	13	17	16	12	3	9	10	7	1
EAST	M.Clear	60	70	32	15	11	28	38	10	7	1
	M.Cloudy	17	31	23	16	12	7	16	10	7	1
SOUTH	M.Clear	18	56	78	73	43	25	75	87	61	6
	M.Cloudy	8	27	40	40	23	7	25	31	20	2
WEST	M.Clear	7	13	15	48	73	4	9	17	43	7
	M.Cloudy	6	13	17	30	34	3	9	12	15	2
M.Clear	(% hrs)	43	43	43	43	45	31	30	28	29	32

Wind Summary - December, January, and February

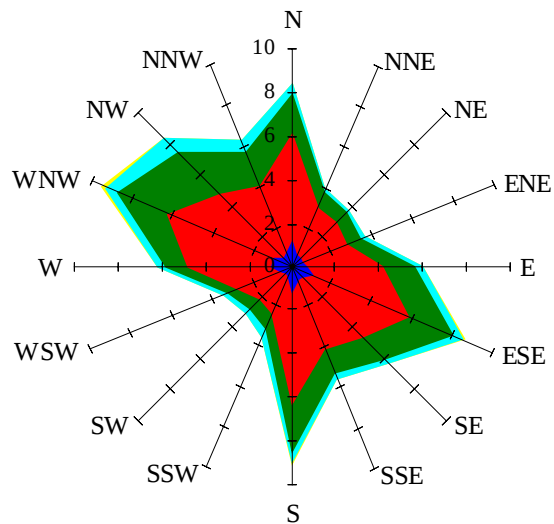
Labels of Percent Frequency on North Axis



Percent Calm = 4.70

Wind Summary - March, April, and May

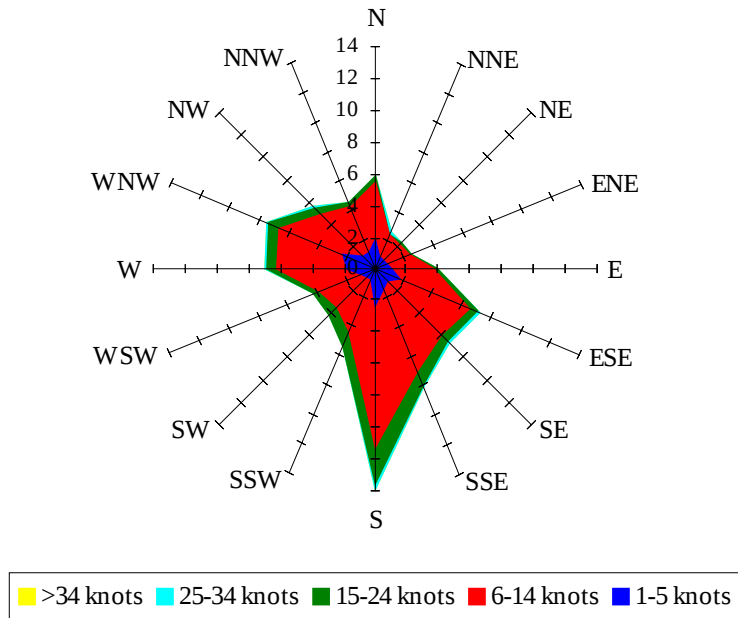
Labels of Percent Frequency on North Axis



Percent Calm = 5.22

Wind Summary - June, July, and August

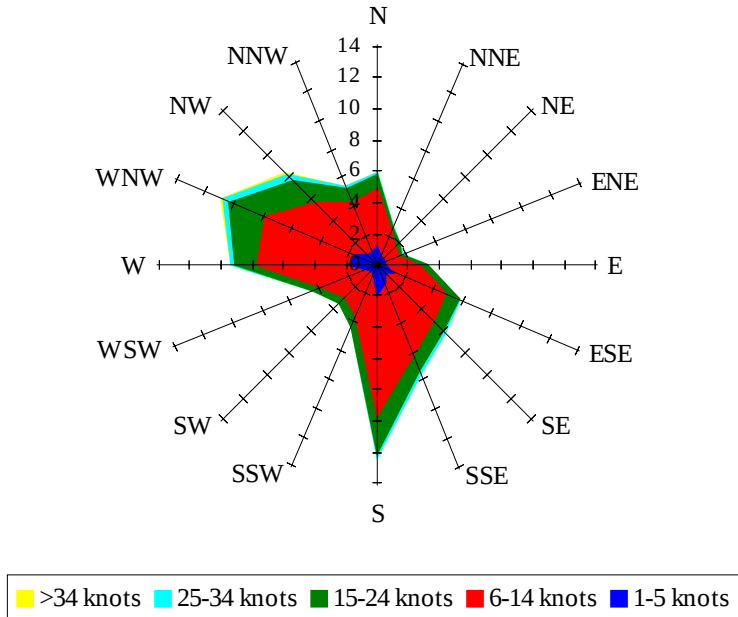
Labels of Percent Frequency on North Axis



Percent Calm = 9.45

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.22