WURTSMITH AFB MI	
Latitude = 44.45 N	WMO No. 726395
Longitude = 83.40 W	Elevation = 633 feet
Period of Record = 1967 to 1996	Average Pressure = 29.27 inches Hg

Design Criteria Data

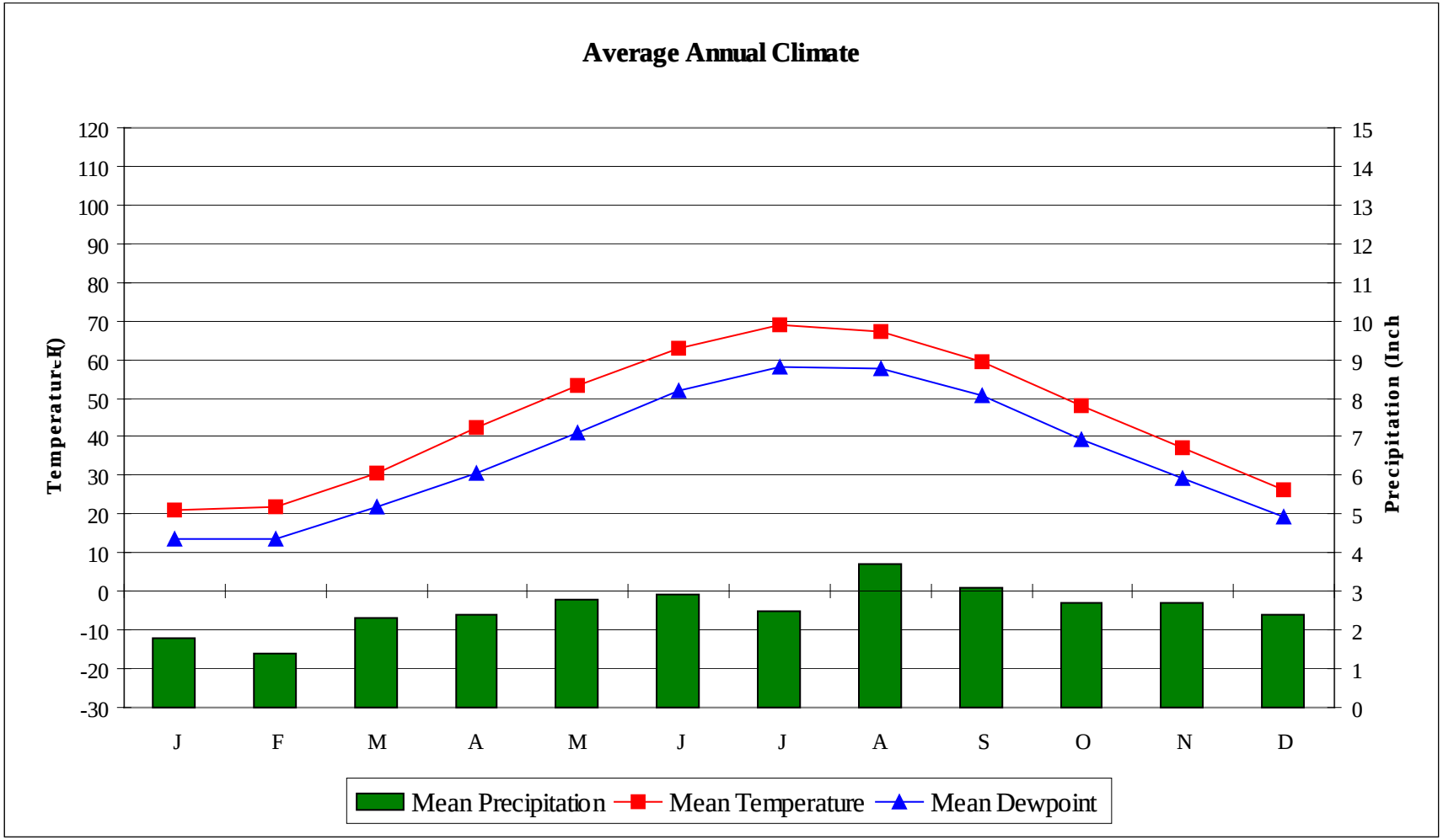
		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (^oF)**	Wet Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	93	75	108	12.1	WSW
0.4% Occurrence	89	73	98	12.1	S
1.0% Occurrence	85	71	92	11.0	S
2.0% Occurrence	82	69	88	10.2	S
Mean Daily Range	17	-	-	-	-
97.5% Occurrence	7	6	5	6.9	SW
99.0% Occurrence	2	1	4	6.4	SW
99.6% Occurrence	-2	-3	3	5.6	SW
Median of Extreme Lows	-7	-8	2	5.1	SW
		Mean Coincident (Average) Values			
Wet Bulb Temperature (T_{wb})	**Design Value (^oF)**	Dry Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	79	89	134	10.6	S
0.4% Occurrence	75	85	116	9.8	S
1.0% Occurrence	73	81	110	8.8	SSW
2.0% Occurrence	71	79	103	8.1	S
		Mean Coincident (Average) Values			
Humidity Ratio (HR)	**Design Value (gr/lb)**	Dry Bulb Temperature (^oF)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	140	87	0.90	8.4	SSW
0.4% Occurrence	122	80	0.79	7.2	SW
1.0% Occurrence	113	78	0.74	7.4	S
2.0% Occurrence	106	76	0.69	6.9	S
Air Conditioning/		$T \geq 93^oF$	$T \geq 80^oF$	$T_{wb} \geq 73^oF$	$T_{wb} \geq 67^oF$
Humid Area Criteria	# of Hours	8	276	107	544

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^oF-RH 60% Latent + Sensible
5	2.8	90	0.7 + 0.3
Ground Water Temperature (^oF) 50 Foot Depth *	**Frost Depth 50 Year Recurrence (in.)**	**Ground Snow Load 50 Year Recurrence (lb/ft^2)**	**Average Annual Freeze-Thaw Cycles (#)**
47.6	84	50	62

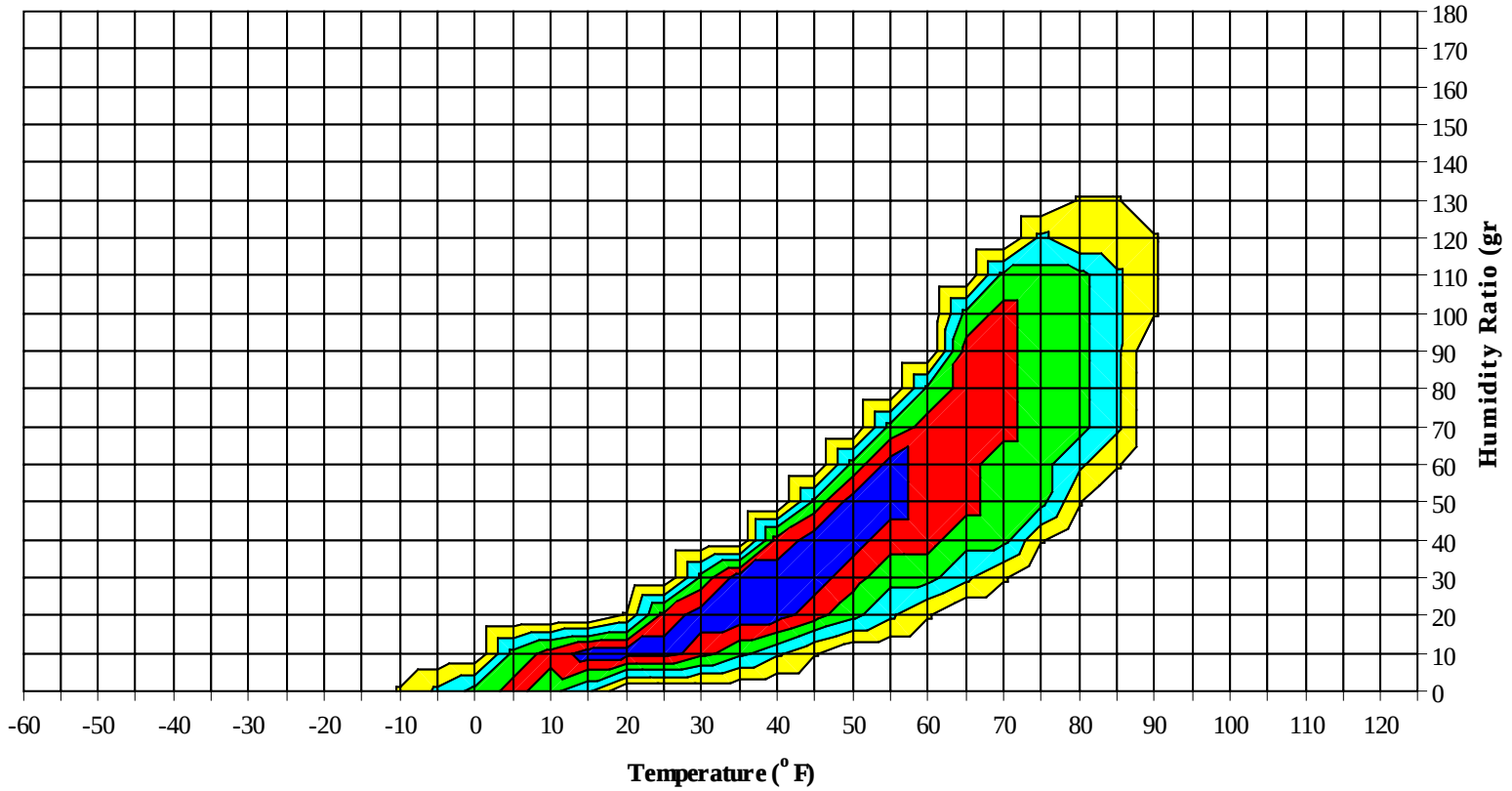
*Note: Temperatures at greater depths can be estimated by adding 1.5^oF per 100 feet additional depth.

WURTSMITH AFB **MI** WMO No. 726395



WURTSMITH AFB **MI** WMO No. 726395

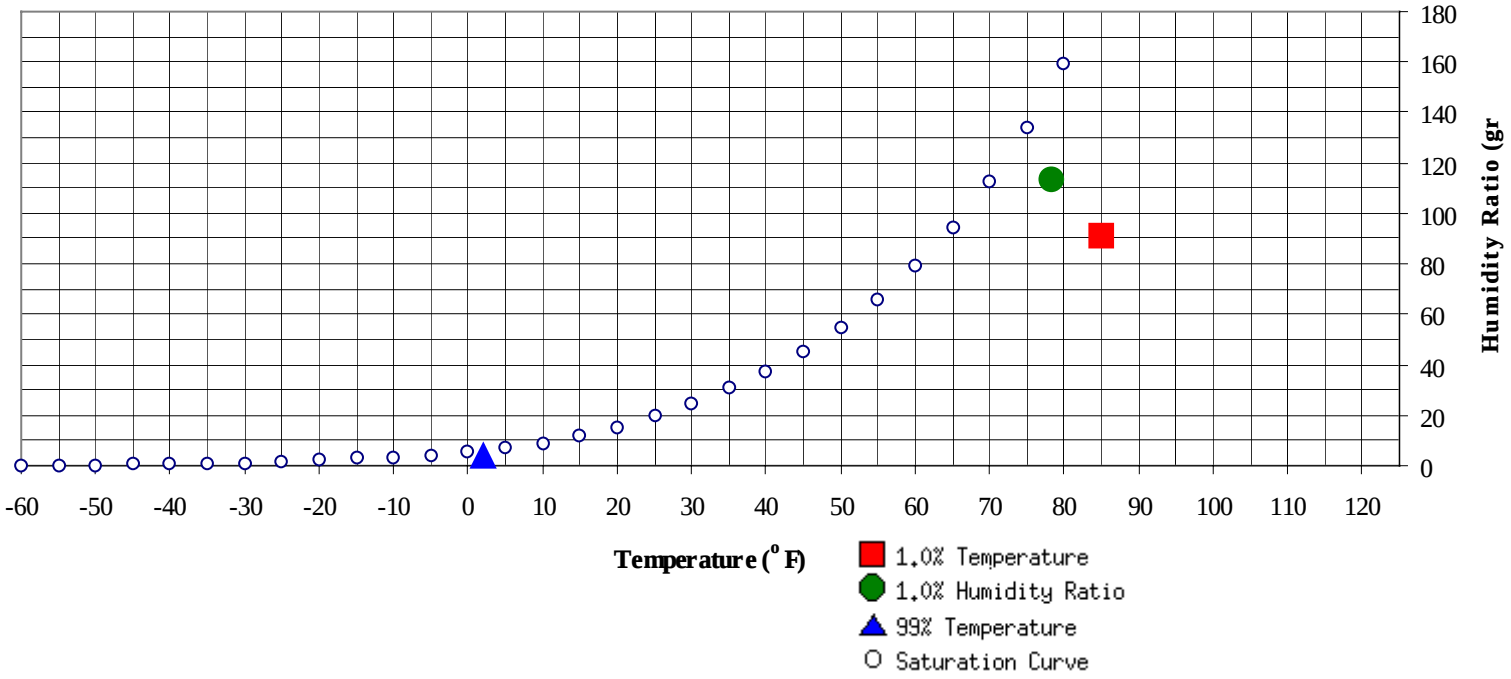
Long Term Psychrometric Summary



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

WURTSMITH AFB **MI** WMO No. 726395

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	2	3.9	1.1

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	113.4	78.3	72.5	70	36.5

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	85	91.4	70.4	34.7

WURTSMITH AFB MI WMO No. 726395

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1967 to 1996

Temperature Range (°F)	January Hour Group (LST) 01 To 08	January 09 To 16	January 17 To 00	January Total Obs	January MCWB (°F)	February Hour Group (LST) 01 To 08	February 09 To 16	February 17 To 00	February Total Obs	February MCWB (°F)	March Hour Group (LST) 01 To 08	March 09 To 16	March 17 To 00	March Total Obs	March MCWB (°F)
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74												1	0	1	59.4
65 / 69											0	2	1	2	55.0
60 / 64							0		0	48.0	0	2	2	4	53.7
55 / 59							0	0	0	46.0	0	4	3	8	50.3
50 / 54		0		0	44.4		1	0	1	43.0	2	8	5	16	46.6
45 / 49	1	2	1	3	43.1		2	1	3	41.2	6	16	9	31	41.9
40 / 44	4	6	4	14	39.0	2	9	4	15	37.8	12	30	21	63	37.9
35 / 39	14	26	18	58	34.1	11	22	20	54	34.0	32	53	47	132	33.7
30 / 34	33	39	39	111	30.0	34	41	39	114	29.9	56	54	63	173	29.4
25 / 29	39	42	45	125	24.9	32	42	41	115	24.6	44	36	44	123	24.4
20 / 24	33	43	38	114	20.0	31	39	38	109	19.6	32	24	26	82	19.6
15 / 19	35	40	37	112	15.3	29	30	32	91	15.2	27	11	16	54	15.3
10 / 14	30	26	31	88	10.7	29	19	24	72	10.5	18	5	7	30	10.7
5 / 9	26	15	20	61	5.8	28	11	16	56	5.8	10	2	3	14	6.1
0 / 4	17	6	10	33	1.1	15	5	6	26	1.2	5	0	1	7	1.2
-5 / -1	10	2	4	17	-3.1	6	1	2	10	-3.1	2		0	3	-3.0
-10 / -6	4	1	1	6	-7.5	3	0	1	4	-7.5	1			1	-7.3
-15 / -11	1	0	0	2	-11.4	2	0	0	2	-11.9					
-20 / -16		0	0	0	-15.0	1		0	1	-16.5					
-25 / -21						0		0	0	-21.4					

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.

WURTSMITH AFB MI WMO No. 726395

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1967 to 1996

Temperature Range (°F)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (°F)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (°F)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (°F)
100 / 104															
95 / 99												1	0	1	73.7
90 / 94		0		0	64.5		1	0	1	68.6		3	1	4	71.2
85 / 89		0	0	1	65.5		4	1	6	68.0		13	4	17	70.1
80 / 84		3	1	3	64.3		11	3	15	65.7	0	21	8	30	67.8
75 / 79		4	2	5	61.6	0	14	5	19	63.0	3	32	17	52	65.2
70 / 74	0	7	3	10	58.1	2	19	10	31	60.2	13	42	29	83	62.6
65 / 69	1	8	5	14	55.5	9	24	20	53	58.0	30	44	40	113	60.1
60 / 64	6	13	8	27	53.3	19	36	26	81	54.2	44	45	52	140	56.6
55 / 59	7	20	12	39	48.9	28	44	35	107	50.4	56	28	48	132	52.8
50 / 54	13	34	22	68	45.0	40	42	51	133	46.7	50	9	27	86	48.8
45 / 49	23	42	36	100	41.4	51	35	46	131	42.7	28	2	11	41	44.3
40 / 44	44	47	52	143	37.6	48	15	33	95	38.5	14	0	3	17	40.1
35 / 39	52	39	50	140	33.5	32	3	14	49	34.2	2		0	3	36.0
30 / 34	49	17	32	98	29.0	15	0	4	19	29.9	0			0	31.8
25 / 29	31	5	14	50	24.4	3		0	4	26.1					
20 / 24	13	1	4	18	20.1										
15 / 19	4	0	0	4	15.7										
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-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.

WURTSMITH AFB MI WMO No. 726395

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1967 to 1996

Temperature Range (°F)	July Hour Group (LST) 01 To 08	July 09 To 16	July 17 To 00	July Total Obs	July MCWB (°F)	August Hour Group (LST) 01 To 08	August 09 To 16	August 17 To 00	August Total Obs	August MCWB (°F)	September Hour Group (LST) 01 To 08	September 09 To 16	September 17 To 00	September Total Obs	September MCWB (°F)
100 / 104		0	0	0	74.1										
95 / 99		2	1	2	75.2		1	0	1	78.6		0		0	76.0
90 / 94		8	2	10	75.6		5	1	6	75.6		1	0	1	75.6
85 / 89	0	23	8	31	71.9		15	4	20	72.9		2	1	3	72.7
80 / 84	1	43	18	62	69.3	1	34	13	48	70.1		11	3	14	69.1
75 / 79	10	56	36	102	66.9	5	52	29	86	67.5	0	21	8	30	66.7
70 / 74	33	61	55	149	64.8	26	64	52	142	65.0	8	37	20	65	64.1
65 / 69	56	38	59	152	61.8	58	51	68	177	62.0	22	46	37	105	61.2
60 / 64	66	14	42	122	58.2	57	19	43	119	58.4	38	49	49	136	57.3
55 / 59	46	4	19	69	54.0	46	6	22	74	54.1	47	40	48	135	52.9
50 / 54	25	0	6	31	49.5	35	1	12	48	49.5	47	22	35	103	48.6
45 / 49	10		1	11	45.4	17		2	19	45.3	36	8	22	66	44.3
40 / 44	1		0	1	41.3	3		0	3	40.5	27	1	12	40	40.0
35 / 39	0			0	36.7	0			0	34.4	13	0	3	16	35.4
30 / 34						0			0	30.8	3		1	4	31.1
25 / 29											0		0	0	28.5
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-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.

WURTSMITH AFB MI WMO No. 726395

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

Period of Record = 1967 to 1996

Temperature Range (°F)	October Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	November Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	December Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104															
95 / 99															
90 / 94															
85 / 89		0		0	71.0										
80 / 84		1	0	1	68.2										
75 / 79		3	1	4	65.1										
70 / 74	0	6	2	8	62.3		1	0	1	60.1					
65 / 69	2	17	8	28	58.9		2	1	3	57.8					
60 / 64	9	26	17	51	55.9	1	3	1	6	55.6		0	0	1	58.5
55 / 59	20	41	28	90	51.8	4	9	7	21	52.7	1	1	1	3	54.0
50 / 54	33	55	45	133	47.8	12	20	14	45	48.2	1	2	2	5	48.7
45 / 49	46	52	55	154	43.1	18	29	23	70	43.8	3	4	4	10	44.1
40 / 44	48	31	44	123	38.8	33	48	38	119	38.6	5	10	6	22	38.6
35 / 39	46	13	32	91	34.3	47	58	55	160	33.8	25	40	31	96	34.3
30 / 34	31	2	12	45	30.2	54	43	57	153	29.3	54	61	56	170	29.8
25 / 29	11	0	3	14	25.8	42	19	28	89	24.8	50	50	50	151	24.8
20 / 24	1		0	2	20.9	18	6	10	35	20.4	36	35	37	109	20.0
15 / 19	0			0	17.8	7	2	4	13	16.0	27	25	28	79	15.4
10 / 14						3	0	1	5	11.3	19	12	18	49	10.7
5 / 9						1	0	0	1	6.7	16	5	9	30	6.2
0 / 4											7	1	3	12	1.3
-5 / -1											3	0	1	4	-2.8
-10 / -6											1	0	0	1	-7.0
-15 / -11											0		0	0	-12.0
-20 / -16											0			0	-16.0
-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.

WURTSMITH AFB MI WMO No. 726395

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

Period of Record = 1967 to 1996

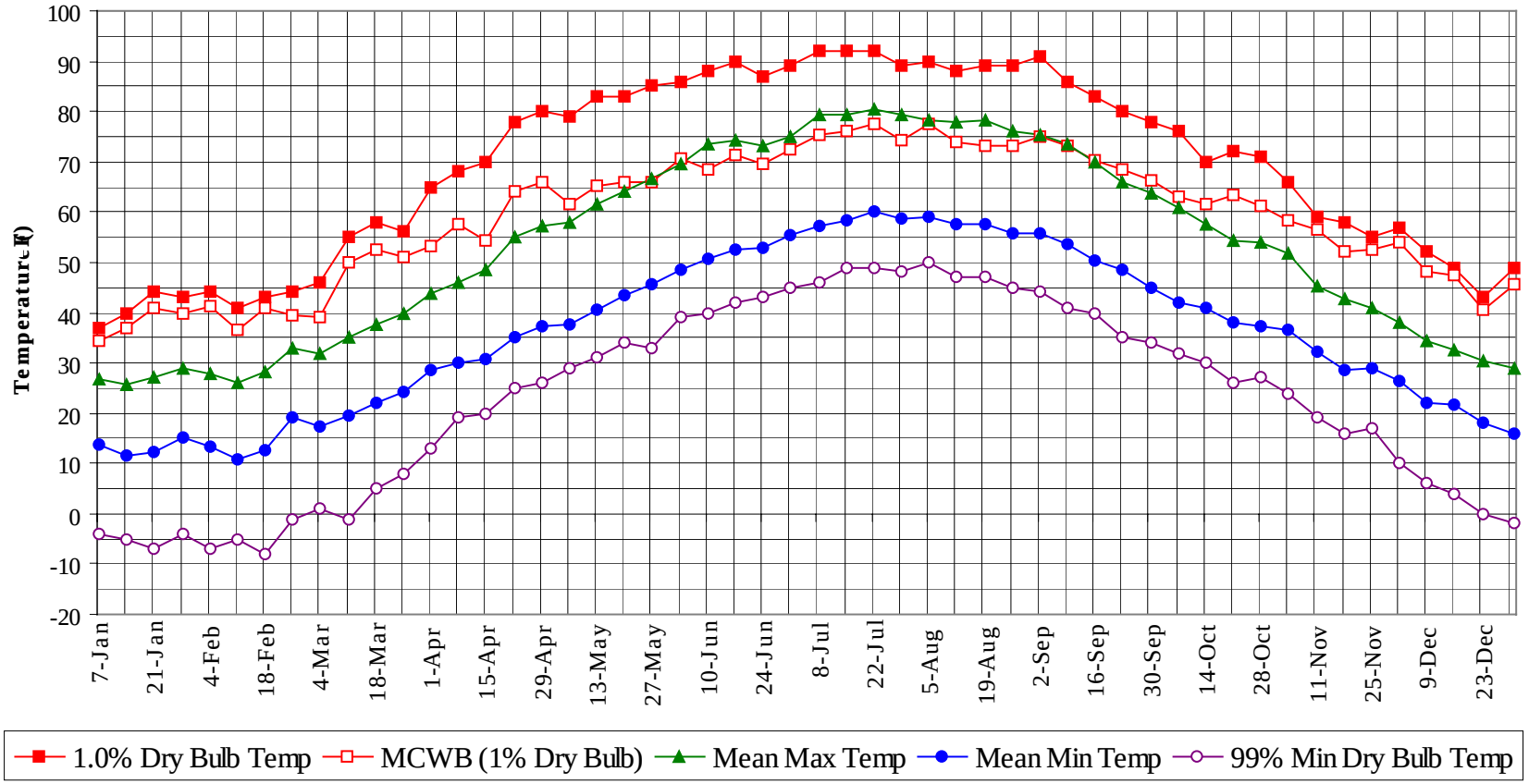
Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104		0	0	0	74.1
95 / 99		3	1	4	75.9
90 / 94		18	4	23	74.5
85 / 89	0	59	18	77	71.5
80 / 84	2	123	47	173	68.8
75 / 79	18	183	98	299	66.4
70 / 74	82	237	172	491	63.9
65 / 69	177	232	237	646	60.8
60 / 64	239	208	241	688	56.8
55 / 59	256	197	225	679	52.3
50 / 54	257	194	220	670	47.7
45 / 49	238	191	210	639	43.1
40 / 44	241	198	216	655	38.5
35 / 39	274	254	270	798	34.0
30 / 34	329	257	301	887	29.6
25 / 29	253	194	226	672	24.7
20 / 24	166	149	154	469	19.9
15 / 19	129	108	118	355	15.3
10 / 14	100	63	81	244	10.6
5 / 9	80	33	48	162	5.9
0 / 4	45	13	21	78	1.2
-5 / -1	22	4	8	34	-3.0
-10 / -6	9	1	2	12	-7.4
-15 / -11	3	0	0	4	-11.7
-20 / -16	1	0	0	1	-16.3
-25 / -21	0		0	0	-21.4

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.

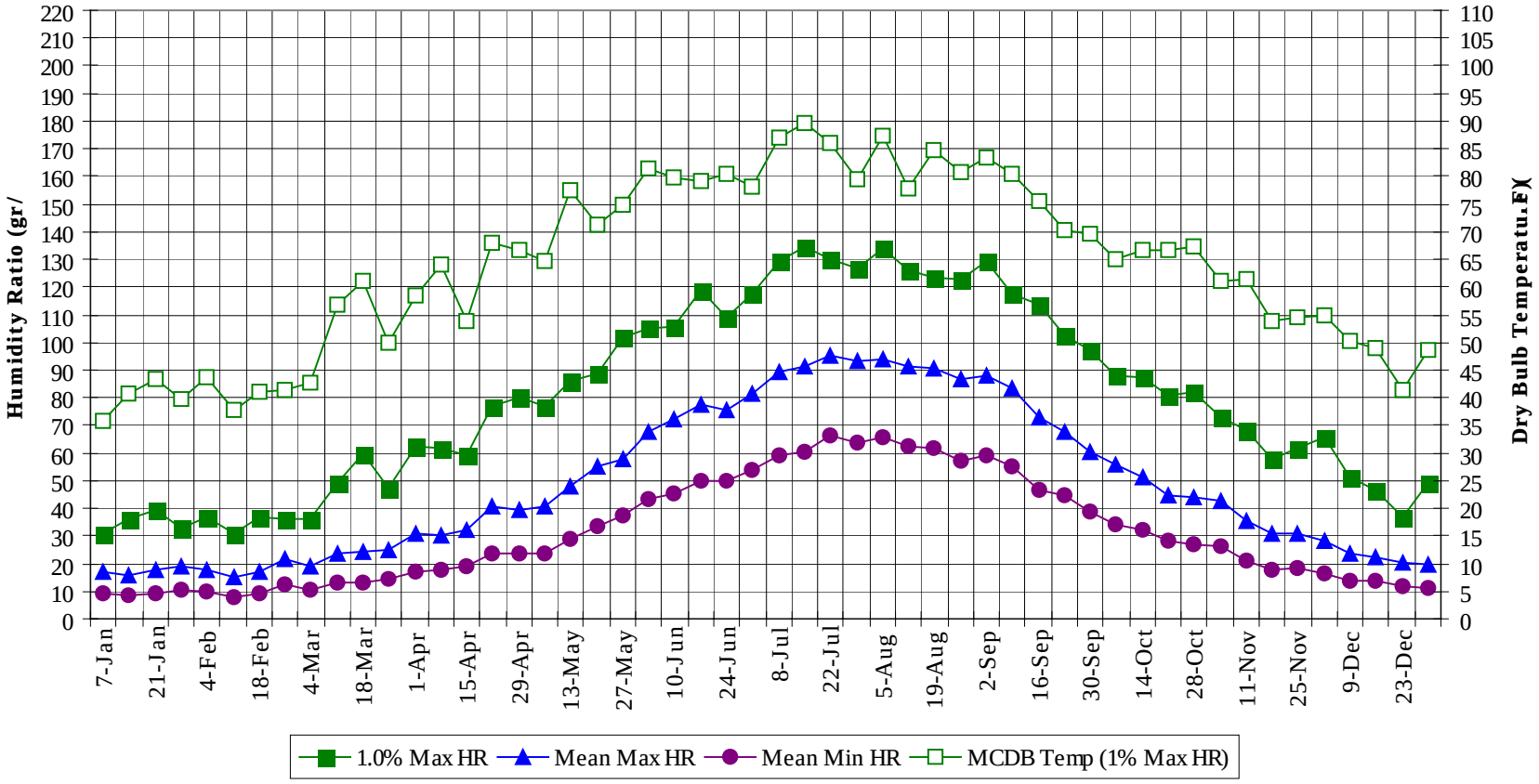
WURTSMITH AFB **MI** WMO No. 726395

Annual Summary of Temperatures



WURTSMITH AFB **MI** WMO No. 726395

Long Term Humidity and Dry Bulb Temperature Summary



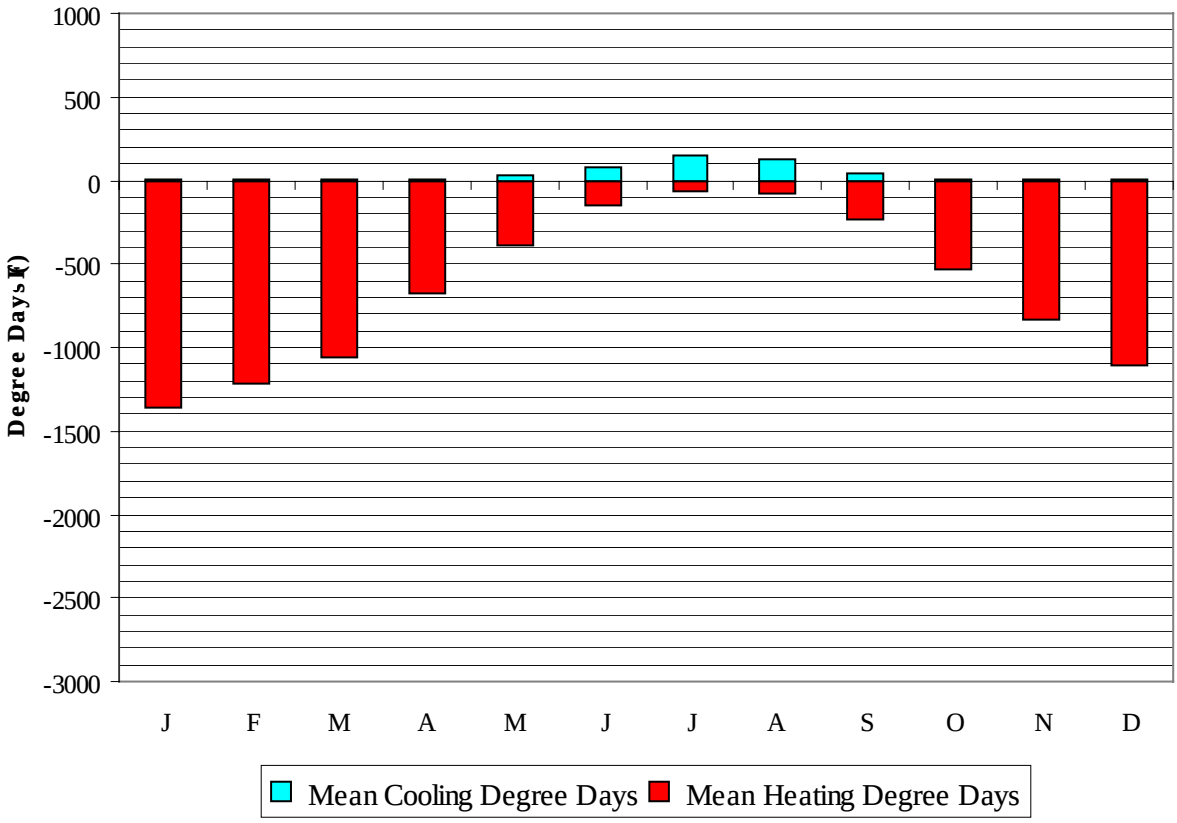
WURTSMITH AFB **MI** WMO No. 726395

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	37.0	34.2	26.7	13.8	-4.0	30.8	35.9	16.9	9.4
14-Jan	40.0	37.1	25.7	11.7	-5.0	36.4	40.6	15.9	8.4
21-Jan	44.0	41.0	27.2	12.4	-7.0	39.2	43.5	17.5	9.5
28-Jan	43.0	39.9	29.1	15.2	-4.0	32.9	39.6	19.2	10.3
4-Feb	44.0	41.3	27.9	13.5	-7.0	37.1	43.7	17.6	9.6
11-Feb	41.0	36.5	26.1	10.7	-5.0	30.8	37.6	15.1	8.1
18-Feb	43.0	40.7	28.1	12.7	-8.0	37.1	41.2	17.3	9.2
25-Feb	44.0	39.4	32.9	19.0	-1.0	36.4	41.5	21.4	12.6
4-Mar	46.0	39.2	31.9	17.4	1.0	36.4	42.6	19.0	10.5
11-Mar	55.0	50.0	35.1	19.5	-1.0	49.0	56.7	23.6	13.1
18-Mar	58.0	52.4	37.7	21.9	5.0	59.5	60.9	24.6	13.3
25-Mar	56.0	51.0	39.8	24.2	8.0	47.6	49.9	25.1	14.5
1-Apr	65.0	53.3	43.9	28.4	13.0	62.3	58.6	31.1	17.3
8-Apr	68.0	57.6	46.1	30.0	19.0	61.6	64.0	30.5	17.9
15-Apr	70.0	54.4	48.5	30.9	20.0	58.8	53.8	32.0	18.7
22-Apr	78.0	64.2	55.2	35.2	25.0	77.0	68.0	40.5	23.5
29-Apr	80.0	65.9	57.1	37.4	26.0	79.8	66.5	39.6	23.9
6-May	79.0	61.5	57.9	37.7	29.0	77.0	64.9	40.4	23.6
13-May	83.0	65.2	61.5	40.5	31.0	86.1	77.3	47.7	29.1
20-May	83.0	66.0	64.3	43.5	34.0	88.9	71.4	54.9	33.3
27-May	85.0	66.1	66.8	45.7	33.0	101.5	75.0	58.1	37.2
3-Jun	86.0	70.7	69.7	48.6	39.0	105.0	81.4	67.7	43.0
10-Jun	88.0	68.6	73.7	50.6	40.0	105.7	79.9	72.4	45.6
17-Jun	90.0	71.2	74.4	52.7	42.0	119.0	79.1	77.4	49.6
24-Jun	87.0	69.6	73.3	53.0	43.0	109.2	80.6	75.8	49.8
1-Jul	89.0	72.3	75.1	55.4	45.0	117.6	78.3	81.5	53.9
8-Jul	92.0	75.3	79.2	57.2	46.0	129.5	86.9	89.2	59.0
15-Jul	92.0	76.1	79.5	58.2	49.0	134.4	89.8	91.4	60.4
22-Jul	92.0	77.5	80.5	60.2	49.0	130.2	85.9	95.4	66.2
29-Jul	89.0	74.2	79.2	58.8	48.0	126.7	79.4	93.2	63.9
5-Aug	90.0	77.5	78.4	58.9	50.0	133.7	87.3	94.1	65.5
12-Aug	88.0	73.8	77.9	57.7	47.0	126.0	77.8	91.6	62.4
19-Aug	89.0	73.1	78.2	57.6	47.0	123.2	84.7	90.7	61.7
26-Aug	89.0	73.3	76.1	55.8	45.0	122.5	80.7	86.5	57.0
2-Sep	91.0	75.1	75.3	55.8	44.0	129.5	83.4	88.1	59.1
9-Sep	86.0	73.1	73.6	53.7	41.0	117.6	80.4	83.3	54.9
16-Sep	83.0	70.3	69.7	50.3	40.0	113.4	75.6	73.2	46.6
23-Sep	80.0	68.6	65.8	48.4	35.0	102.2	70.4	67.9	44.5
30-Sep	78.0	66.4	63.6	44.7	34.0	97.3	69.5	60.4	38.7
7-Oct	76.0	62.9	60.8	42.1	32.0	88.2	64.9	55.8	33.9
14-Oct	70.0	61.5	57.5	40.9	30.0	87.5	66.8	51.4	32.0
21-Oct	72.0	63.6	54.1	38.0	26.0	80.5	66.8	44.4	27.9
28-Oct	71.0	61.2	54.1	37.4	27.0	81.9	67.2	44.1	27.1
4-Nov	66.0	58.4	51.7	36.5	24.0	72.8	61.1	42.6	26.4
11-Nov	59.0	56.5	45.4	32.1	19.0	68.6	61.6	35.2	21.3
18-Nov	58.0	52.3	42.9	28.6	16.0	58.1	53.7	30.9	17.9
25-Nov	55.0	52.6	40.9	28.9	17.0	61.6	54.6	30.9	18.2
2-Dec	57.0	54.1	38.0	26.5	10.0	65.8	55.0	28.1	16.4
9-Dec	52.0	48.3	34.4	22.1	6.0	51.1	50.3	23.5	13.7
16-Dec	49.0	47.3	32.7	21.6	4.0	46.9	48.9	22.6	13.6
23-Dec	43.0	40.5	30.4	18.0	0.0	37.1	41.3	20.4	11.6
31-Dec	49.0	45.8	29.1	16.0	-2.0	49.0	48.5	19.5	10.9

WURTSMITH AFB **MI** WMO No. 726395

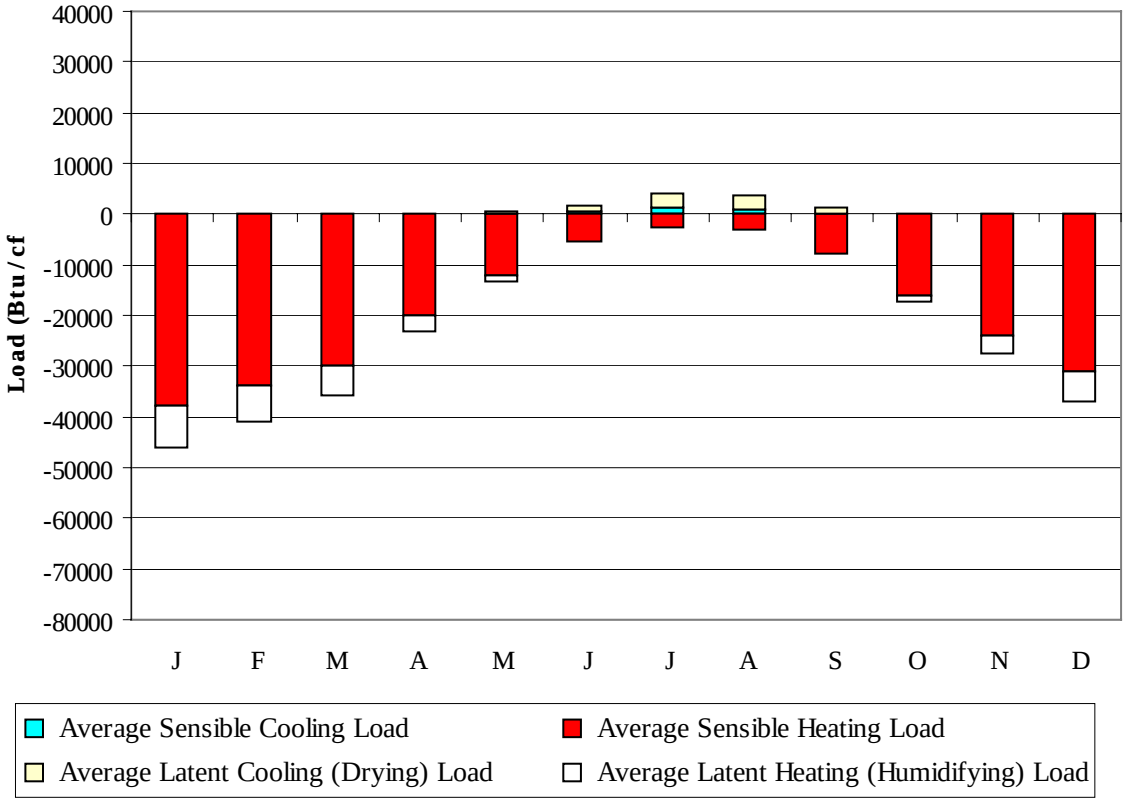
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1363
FEB	0	1219
MAR	0	1065
APR	7	679
MAY	31	393
JUN	80	151
JUL	153	63
AUG	125	81
SEP	43	228
OCT	5	535
NOV	0	838
DEC	0	1105
ANN	445	7720

WURTSMITH AFB MI WMO No. 726395

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	0	-37729	0	-8159
FEB	0	-33798	0	-7263
MAR	0	-30008	0	-5753
APR	41	-19841	8	-3207
MAY	228	-12274	201	-948
JUN	598	-5377	919	-40
JUL	1279	-2594	2986	-1
AUG	893	-3187	2982	-11
SEP	217	-7695	957	-146
OCT	11	-16200	45	-1219
NOV	0	-24053	1	-3577
DEC	0	-30866	0	-6117
ANN	3267	-223622	8099	-36441

Average Annual Solar Radiation – Nearest Available Site

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

City: ALPENA
State: MI
WBAN No: 94849
Lat(N): 45.07
Long(W): 83.57
Elev(ft): 689

Stn Type: Secondary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.68
Vert Gap: 0.331

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	510	800	1180	1480	1800	1960	1940	1620	1200	780	470	390	1180
	Std Dev	36	61	96	94	134	138	101	105	102	48	42	37	31
	Minimum	430	690	970	1260	1500	1710	1740	1420	940	690	380	280	1120
	Maximum	570	920	1350	1670	2080	2270	2140	1830	1400	870	580	450	1230
	Diffuse	340	480	610	650	720	780	740	660	550	410	310	290	540
Clear Day	Global	720	1080	1610	2130	2510	2660	2550	2210	1720	1170	750	600	1650
NORTH	Global	190	270	360	420	540	620	580	460	350	250	170	150	360
	Diffuse	190	270	360	410	480	520	500	430	340	250	170	150	340
Clear Day	Global	150	220	300	410	580	700	640	450	320	230	160	130	360
EAST	Global	350	530	750	900	1050	1120	1130	970	740	510	300	250	720
	Diffuse	240	340	440	500	570	610	600	520	420	300	210	190	410
Clear Day	Global	610	840	1140	1370	1510	1560	1520	1390	1160	880	620	520	1090
SOUTH	Global	810	1040	1160	1030	940	880	930	1000	1020	920	650	590	910
	Diffuse	370	470	530	520	550	570	570	530	480	380	290	300	460
Clear Day	Global	1860	2020	1950	1580	1250	1100	1150	1400	1730	1890	1800	1740	1620
WEST	Global	350	540	770	890	1050	1130	1130	990	760	520	310	260	730
	Diffuse	240	340	450	500	570	610	600	530	430	300	210	190	410
Clear Day	Global	610	840	1140	1370	1510	1560	1520	1390	1160	880	620	520	1090

Average Annual Solar Heat and Illumination – Nearest Available Site

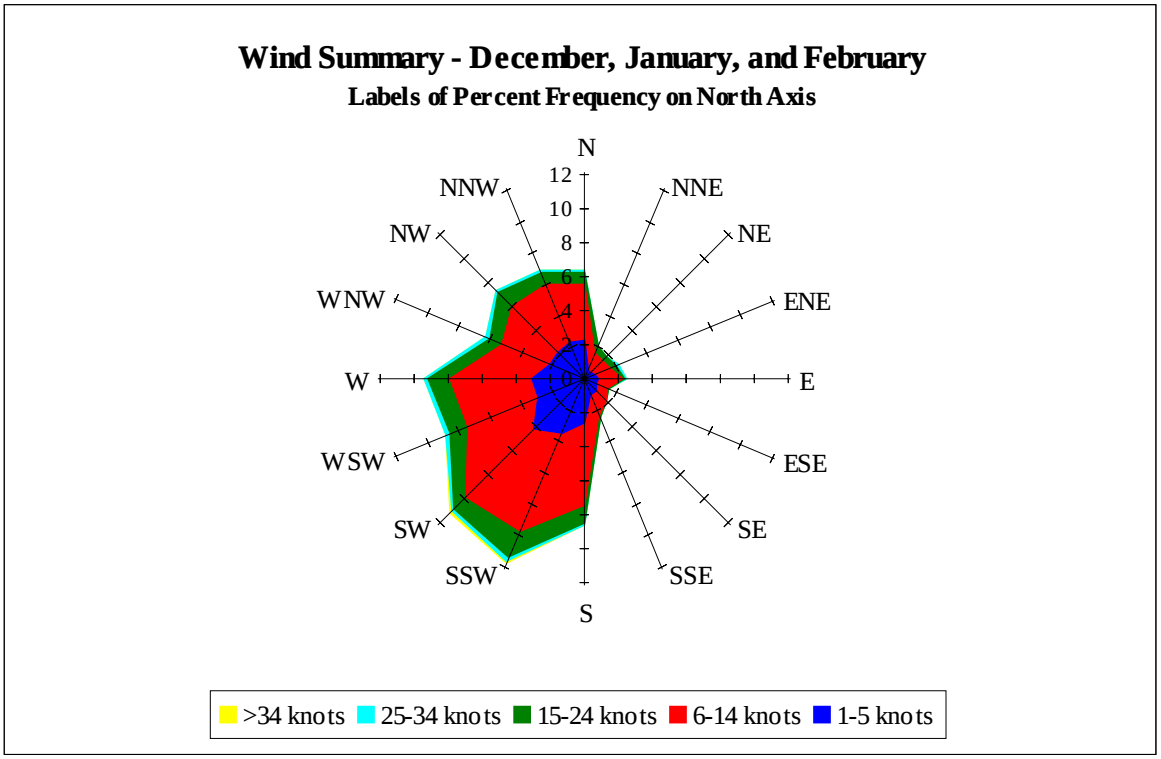
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9

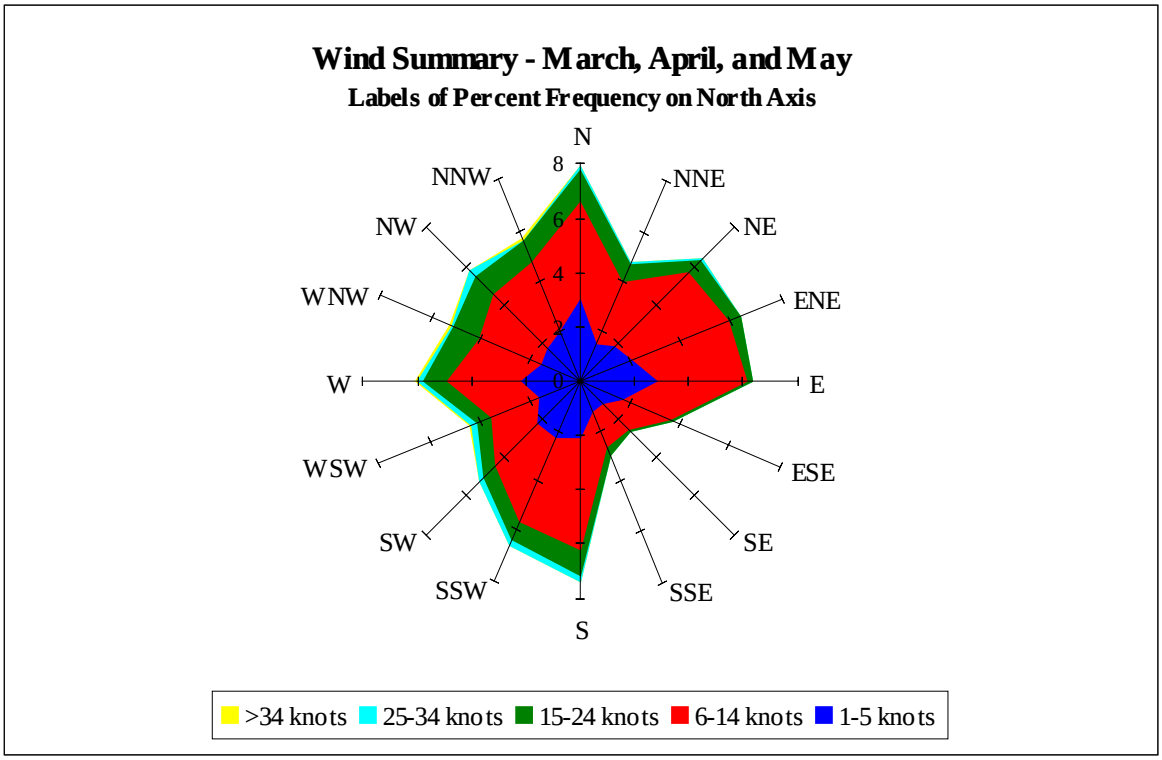
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	330	530	820	1060	1300	1420	1410	1160	840	530	310	250	830
NORTH	Unshaded	130	190	250	290	350	400	380	310	240	170	120	110	240
	Shaded	100	150	210	240	300	340	330	260	200	140	97	84	210
EAST	Unshaded	240	370	530	640	750	800	810	700	530	360	210	170	510
	Shaded	200	310	440	530	600	640	650	570	440	300	180	140	420
SOUTH	Unshaded	610	770	820	690	590	540	580	650	710	670	490	450	630
	Shaded	570	690	610	390	320	340	340	350	470	570	450	420	460
WEST	Unshaded	240	380	540	640	750	810	810	710	540	370	220	180	520
	Shaded	200	320	450	520	600	640	650	580	450	310	180	150	420

AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9

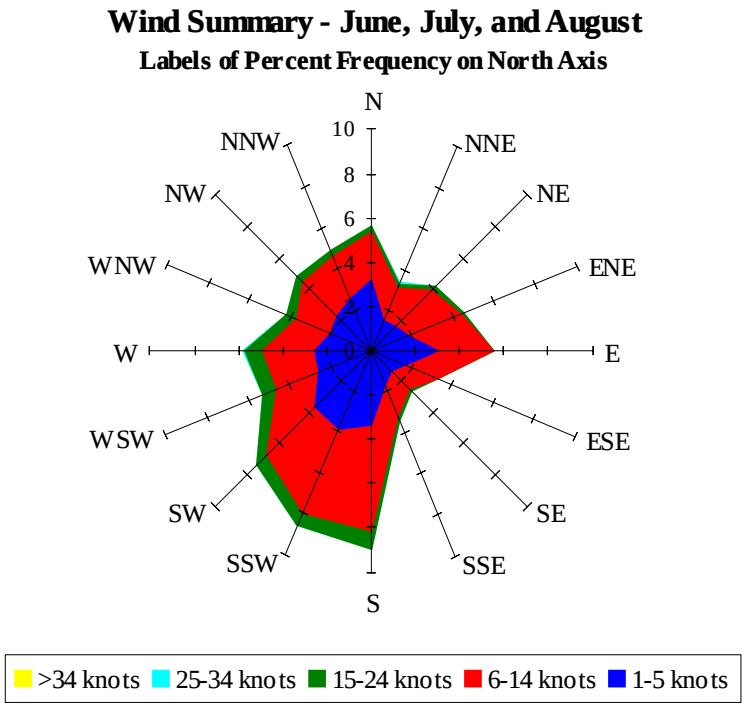
		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	25	60	75	66	34	39	75	95	95	76
	M.Cloudy	17	39	49	44	23	24	47	64	66	49
NORTH	M.Clear	8	13	14	13	9	19	14	16	16	15
	M.Cloudy	7	14	17	16	9	12	15	18	18	16
EAST	M.Clear	65	64	20	13	9	75	78	42	16	15
	M.Cloudy	22	31	19	16	9	31	41	32	18	16
SOUTH	M.Clear	29	71	89	77	40	10	31	52	53	33
	M.Cloudy	13	33	43	39	19	9	22	37	38	24
WEST	M.Clear	8	13	14	57	72	10	14	16	39	75
	M.Cloudy	7	14	17	32	29	9	15	18	30	43
M.Clear	(% hrs)	31	29	29	29	29	39	40	35	33	37
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	17	53	73	73	52	3	26	36	25	3
	M.Cloudy	9	30	46	47	31	3	16	23	17	3
NORTH	M.Clear	6	12	14	14	12	2	8	9	8	2
	M.Cloudy	4	11	16	16	12	1	7	10	7	1
EAST	M.Clear	51	72	38	14	12	12	38	10	8	2
	M.Cloudy	13	28	25	16	12	3	14	10	7	1
SOUTH	M.Clear	12	51	74	75	50	10	62	81	60	10
	M.Cloudy	6	22	40	40	25	3	19	26	20	3
WEST	M.Clear	6	12	14	39	71	2	8	10	37	12
	M.Cloudy	4	11	16	26	32	1	7	10	14	3
M.Clear	(% hrs)	33	32	30	28	30	12	15	12	14	19



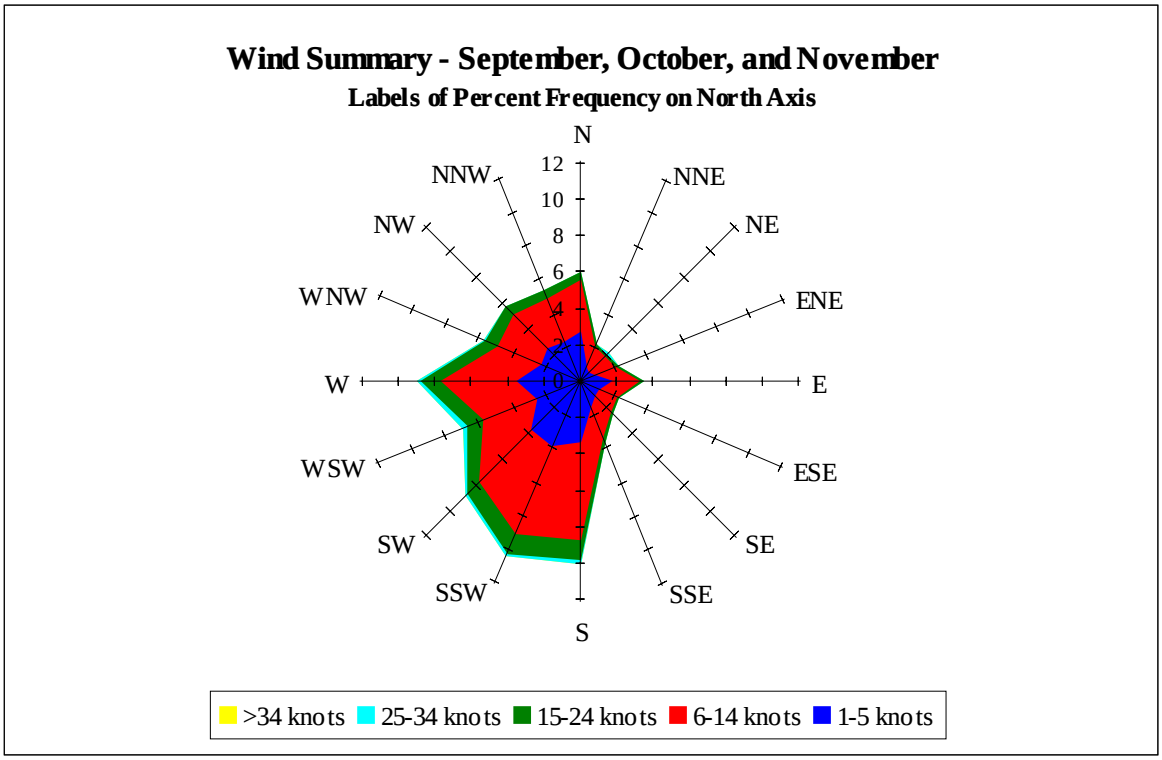
Percent Calm = 10.18



Percent Calm = 13.33



Percent Calm = 18.37



Percent Calm = 14.38