MALMSTROM AFB MT	
Latitude = 47.50 N	WMO No. 727755
Longitude =111.10 W	Elevation = 3527 feet
Period of Record = 1967 to 1996	Average Pressure = 26.30 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	98	63	44	7.8	W
0.4% Occurrence	92	61	44	8.6	W
1.0% Occurrence	89	61	45	8.2	W
2.0% Occurrence	85	60	47	8.2	W
Mean Daily Range	22	-	-	-	-
97.5% Occurrence	-3	-4	4	4.9	NNE
99.0% Occurrence	-11	-11	2	4.1	SW
99.6% Occurrence	-18	-18	2	4.0	SW
Median of Extreme Lows	-23	-23	1	3.8	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	68	87	83	6.4	E
0.4% Occurrence	65	84	72	6.8	W
1.0% Occurrence	63	83	65	6.9	W
2.0% Occurrence	61	80	59	7.2	W
		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	95	75	0.56	5.3	NE
0.4% Occurrence	82	70	0.49	5.4	W
1.0% Occurrence	76	69	0.45	6.0	SW
2.0% Occurrence	71	68	0.42	6.0	SW
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	30	412	1	12

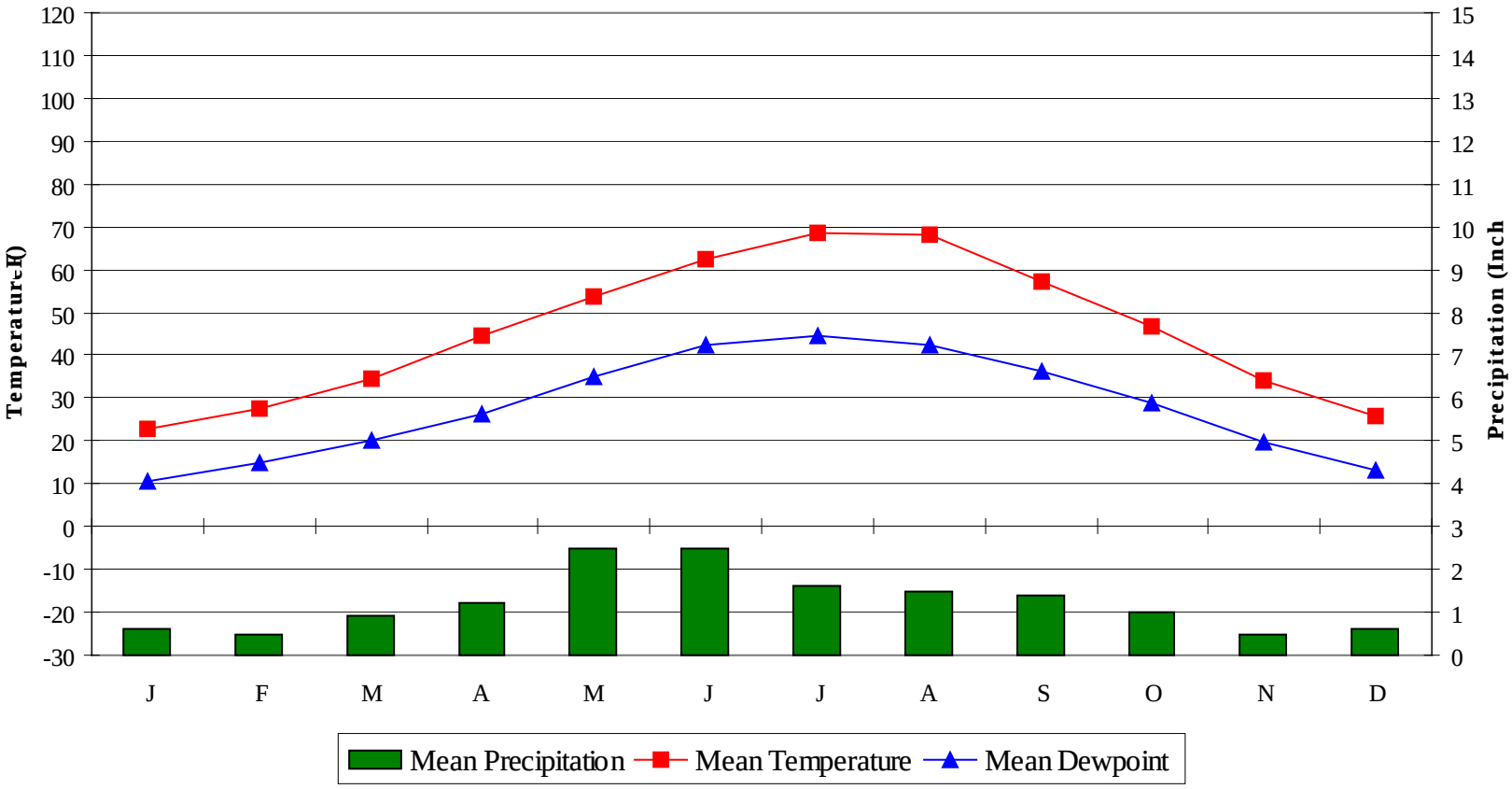
Other Site Data

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	1.5	N/A	0.0 + 0.4
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 (#)**
48.1	107	15	87

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

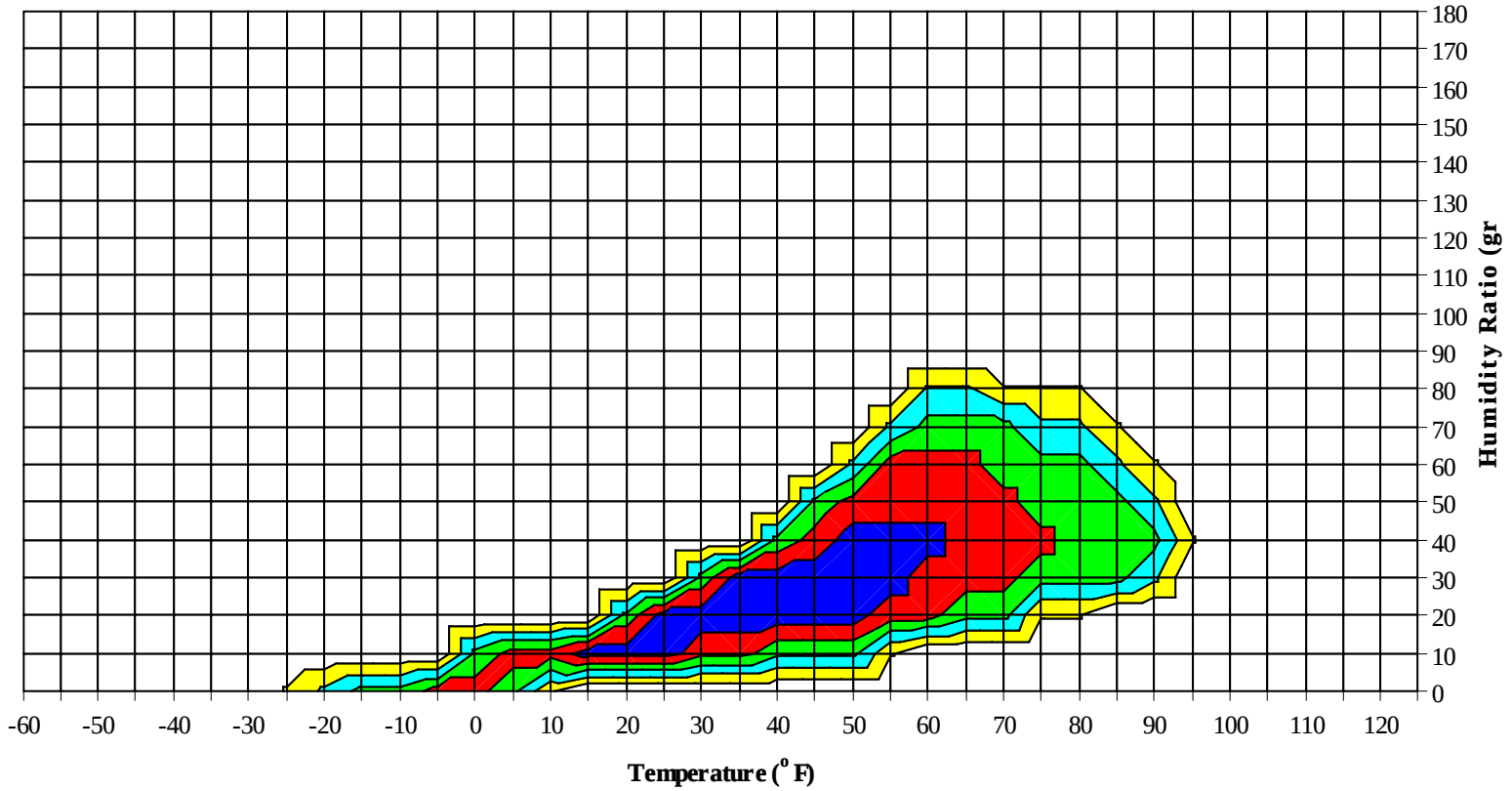
MALMSTROM AFB **MT** WMO No. 727755

Average Annual Climate



MALMSTROM AFB **MT** WMO No. 727755

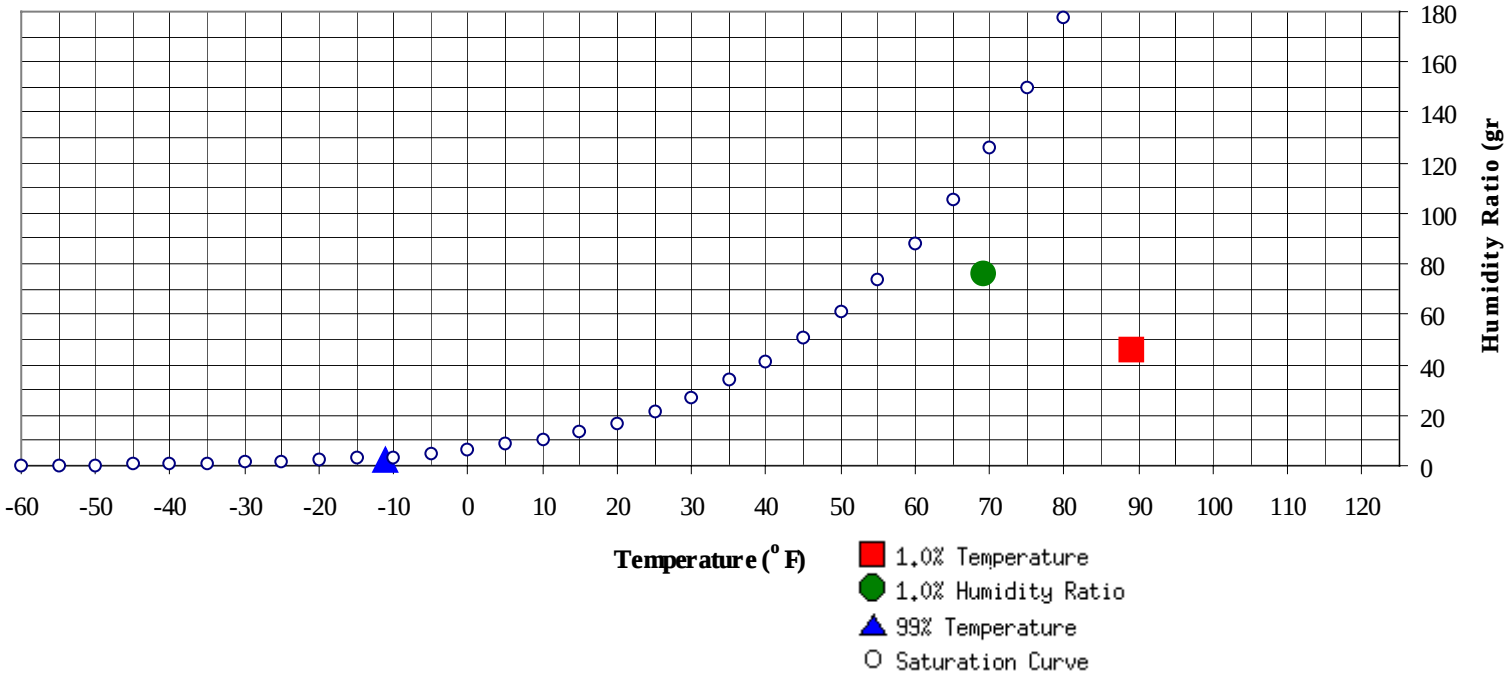
Long Term Psychrometric Summary



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

MALMSTROM AFB **MT** WMO No. 727755

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	-11	2.3	-2.3

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	76.3	69.1	60.6	56	28.5

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	89	45.6	60.9	28.5

MALMSTROM AFB MT WMO No. 727755

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	09 To 16	17 To 00	Total Obs	MCWB (°F)	February Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	March Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												0	0	0	51.0
70 / 74							0		0	48.8		1	0	1	49.0
65 / 69		0		0	45.0		1	0	1	46.8		5	1	6	47.1
60 / 64		1	0	1	43.2		5	1	5	44.8	0	12	4	15	45.0
55 / 59	0	5	1	7	42.7	0	11	3	15	42.2	1	22	9	32	42.6
50 / 54	2	12	5	19	40.3	3	20	9	32	40.1	5	28	16	48	40.1
45 / 49	12	24	15	50	37.6	11	25	18	54	37.4	13	35	28	76	37.4
40 / 44	24	31	29	84	34.5	20	30	27	77	34.2	28	35	39	102	34.7
35 / 39	28	29	30	87	31.2	31	25	33	89	31.1	44	30	44	117	31.7
30 / 34	28	26	31	85	27.6	33	20	31	84	27.9	53	26	36	115	28.4
25 / 29	26	19	24	68	23.9	28	16	23	67	24.0	37	17	26	80	24.5
20 / 24	25	15	21	61	19.9	23	12	16	51	20.0	25	12	17	54	20.3
15 / 19	18	12	14	44	15.3	16	12	12	40	15.5	13	7	8	28	15.8
10 / 14	13	11	11	34	10.7	13	12	12	37	10.8	9	8	7	24	11.0
5 / 9	13	14	12	39	5.8	10	11	12	33	6.0	6	4	5	16	6.3
0 / 4	15	16	15	46	0.9	12	11	11	34	1.2	7	3	4	14	1.3
-5 / -1	11	10	12	33	-3.3	7	5	7	20	-3.1	3	2	2	7	-2.7
-10 / -6	13	11	11	35	-7.5	9	5	4	18	-7.6	2	1	1	4	-7.2
-15 / -11	9	7	9	25	-12.5	4	1	2	8	-11.9	1	0	1	2	-12.4
-20 / -16	6	3	4	12	-16.9	1	0	1	2	-16.8	0	0	0	1	-17.1
-25 / -21	4	2	3	9	-21.6	1	0	0	1	-22.0	0		0	0	-21.7
-30 / -26	1	1	1	3	-26.6	0	1	1	2	-26.7	0			0	-25.0
-35 / -31	0	0	0	0	-30.0	0	0	0	1	-30.9					
-40 / -36															

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.

MALMSTROM AFB MT WMO No. 727755

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												0		0	63.5
95 / 99												1	0	1	65.3
90 / 94		0		0	57.0		0	0	0	60.1		5	2	6	62.6
85 / 89		0	0	0	56.5		2	1	3	58.5	0	13	5	18	61.2
80 / 84		2	1	3	55.1		9	3	12	57.2	0	23	11	34	59.6
75 / 79		5	2	7	52.8	0	15	7	23	55.2	2	33	20	54	58.0
70 / 74	0	11	4	15	50.6	1	24	13	38	53.2	6	41	28	75	55.9
65 / 69	0	17	9	26	48.5	3	35	21	60	51.1	16	44	37	98	53.8
60 / 64	2	24	15	41	46.4	10	44	32	86	48.8	37	37	46	119	51.7
55 / 59	9	32	24	64	43.9	25	43	43	112	46.7	58	23	43	124	49.7
50 / 54	17	38	32	86	40.9	48	32	47	126	44.6	61	15	32	108	46.7
45 / 49	31	35	36	102	38.3	62	23	38	123	41.5	42	5	14	60	43.0
40 / 44	41	31	39	111	35.6	51	11	24	86	37.8	15	1	3	18	39.0
35 / 39	55	20	39	114	32.7	32	6	14	52	34.0	3	0	0	3	34.9
30 / 34	48	11	22	80	29.2	14	2	4	21	30.3	0	0	0	1	31.5
25 / 29	19	8	11	37	24.8	2	0	1	3	25.7					
20 / 24	10	3	4	18	20.7	0		0	0	22.3					
15 / 19	5	1	2	8	16.2										
10 / 14	2	1	1	4	11.6										
5 / 9	1	0	0	2	7.1										
0 / 4	0		0	0	2.0										
-5 / -1	0		0	0	-2.0										
-10 / -6	0		0	0	-7.2										
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															

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.

MALMSTROM AFB MT WMO No. 727755

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)				MCWB	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB
	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)
100 / 104		0	0	0	63.4		1	0	1	64.0		0		0	63.3
95 / 99		4	2	5	63.0		5	2	6	62.2		1	0	1	61.3
90 / 94		14	7	22	61.8		19	8	27	60.9		4	1	4	59.3
85 / 89	0	30	15	45	61.0		33	16	49	59.9		10	3	13	58.3
80 / 84	1	44	24	68	59.7	0	39	22	61	58.7	0	18	6	25	56.6
75 / 79	4	50	34	88	58.1	3	43	30	75	57.2	0	26	12	39	55.0
70 / 74	15	47	42	104	56.3	13	41	40	94	55.6	2	32	18	53	53.4
65 / 69	34	30	45	110	54.9	34	29	43	105	53.9	7	33	27	67	51.3
60 / 64	64	17	41	122	53.0	59	20	42	121	52.1	21	36	38	95	49.1
55 / 59	73	7	26	106	50.5	67	11	27	106	49.8	39	29	38	106	47.1
50 / 54	42	3	10	55	47.0	47	6	13	67	46.7	50	20	36	106	44.7
45 / 49	13	1	2	16	43.0	19	1	4	25	42.9	51	14	28	93	41.8
40 / 44	3	0	0	3	38.6	4	0	1	4	39.2	36	9	17	62	38.4
35 / 39	0			0	34.3	1	0	0	2	35.5	19	6	9	34	34.3
30 / 34						0		0	0	33.9	10	3	5	18	30.2
25 / 29											3	0	1	4	25.6
20 / 24											0			0	22.2
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															

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MALMSTROM AFB MT WMO No. 727755

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

Period of Record = 1967 to 1996

	October					November					December				
	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB
Temperature Range (°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)	01 To 08	09 To 16	17 To 00	Total Obs	(°F)
100 / 104															
95 / 99															
90 / 94		0	0	0	57.6										
85 / 89		0	0	1	56.2										
80 / 84		4	0	4	54.8										
75 / 79		9	2	11	53.0		0		0	48.0					
70 / 74	0	17	3	20	51.3		1		1	48.5					
65 / 69	1	24	8	33	49.1	0	3	0	3	47.4					
60 / 64	7	28	17	53	47.1	1	8	2	12	45.9		1	0	1	44.5
55 / 59	17	37	30	84	44.6	5	18	7	31	43.6	1	7	2	9	42.5
50 / 54	29	39	38	105	42.0	11	27	16	54	41.0	4	15	5	24	40.2
45 / 49	42	30	43	115	39.5	18	35	25	77	37.6	13	25	15	54	37.0
40 / 44	45	22	40	107	36.6	32	35	35	102	34.6	25	33	27	85	34.1
35 / 39	43	17	29	88	33.2	37	33	39	108	31.4	29	34	34	97	30.8
30 / 34	32	10	19	61	29.4	38	26	37	101	28.3	34	31	37	102	27.4
25 / 29	18	6	10	33	25.1	34	15	27	76	24.5	31	22	31	84	23.8
20 / 24	9	2	4	15	21.0	21	10	17	48	20.1	28	17	26	72	19.8
15 / 19	3	2	2	7	16.2	13	9	10	32	15.7	18	11	16	45	15.5
10 / 14	1	1	1	2	11.2	9	5	8	22	11.1	15	11	9	35	10.9
5 / 9	1	0	0	2	6.6	6	5	5	15	6.1	10	10	10	31	6.3
0 / 4	1	0	1	2	1.3	7	5	5	17	1.1	10	8	10	27	1.2
-5 / -1	0	0	0	1	-2.4	4	3	4	10	-3.2	7	6	7	19	-3.2
-10 / -6	0		0	0	-5.3	2	1	2	5	-7.0	7	6	7	20	-7.8
-15 / -11						2	1	2	4	-11.8	6	5	5	16	-12.2
-20 / -16						1	1	1	3	-17.0	5	4	5	13	-17.0
-25 / -21						0		0	0	-20.3	3	1	2	6	-21.6
-30 / -26											1	1	1	2	-26.5
-35 / -31											0	0	0	1	-31.6
-40 / -36											0	0	0	0	-35.6

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.

MALMSTROM AFB MT WMO No. 727755

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		1	0	2	63.9
95 / 99		9	4	13	62.7
90 / 94		42	18	60	61.3
85 / 89	0	88	41	129	60.3
80 / 84	1	139	68	208	58.7
75 / 79	9	182	106	297	56.9
70 / 74	38	215	148	401	54.9
65 / 69	97	220	191	508	52.7
60 / 64	201	233	237	670	50.3
55 / 59	297	245	252	794	47.3
50 / 54	318	254	258	830	43.6
45 / 49	326	255	265	846	39.5
40 / 44	322	238	280	841	35.6
35 / 39	321	199	271	792	32.0
30 / 34	291	156	221	668	28.4
25 / 29	198	103	152	453	24.3
20 / 24	142	72	106	320	20.1
15 / 19	87	53	66	206	15.6
10 / 14	62	47	49	158	10.9
5 / 9	47	45	45	137	6.1
0 / 4	51	45	45	141	1.1
-5 / -1	33	25	33	91	-3.2
-10 / -6	34	23	25	83	-7.5
-15 / -11	23	14	19	55	-12.3
-20 / -16	13	8	10	30	-16.9
-25 / -21	8	4	6	18	-21.6
-30 / -26	3	2	2	7	-26.6
-35 / -31	1	0	1	2	-31.1
-40 / -36	0	0	0	0	-35.6

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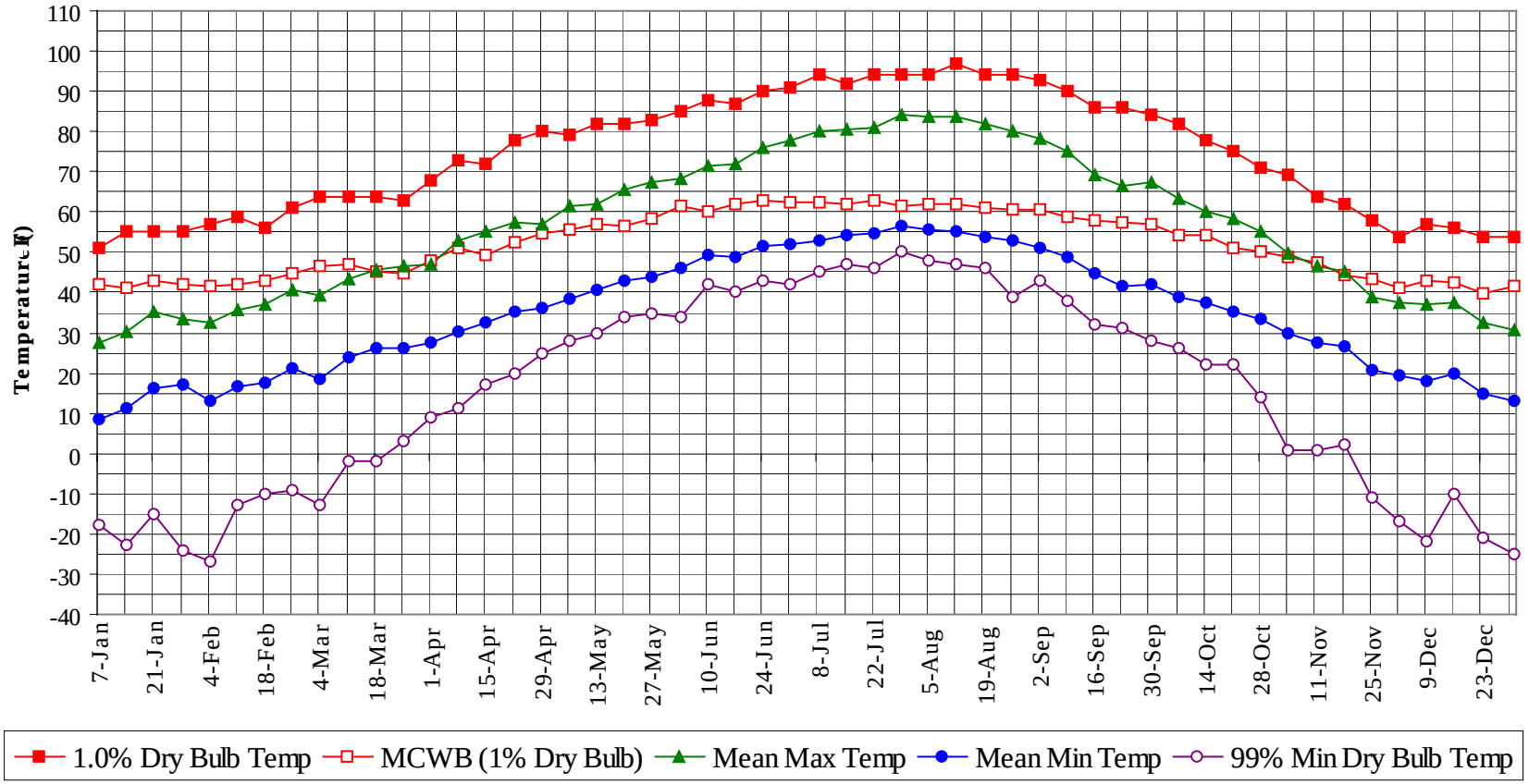
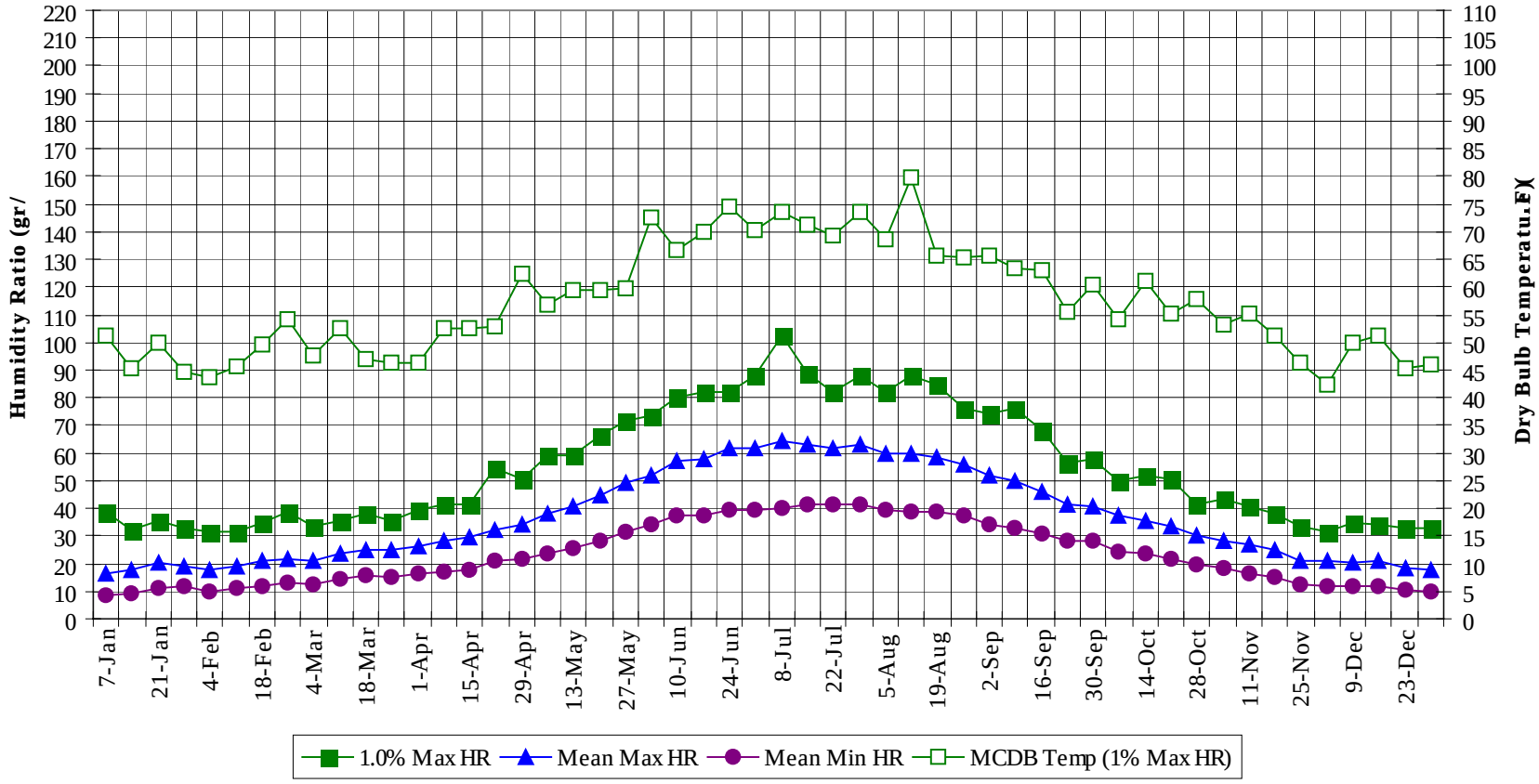
MALMSTROM AFB **MT** WMO No. 727755

Annual Summary of Temperatures



MALMSTROM AFB **MT** WMO No. 727755

Long Term Humidity and Dry Bulb Temperature Summary



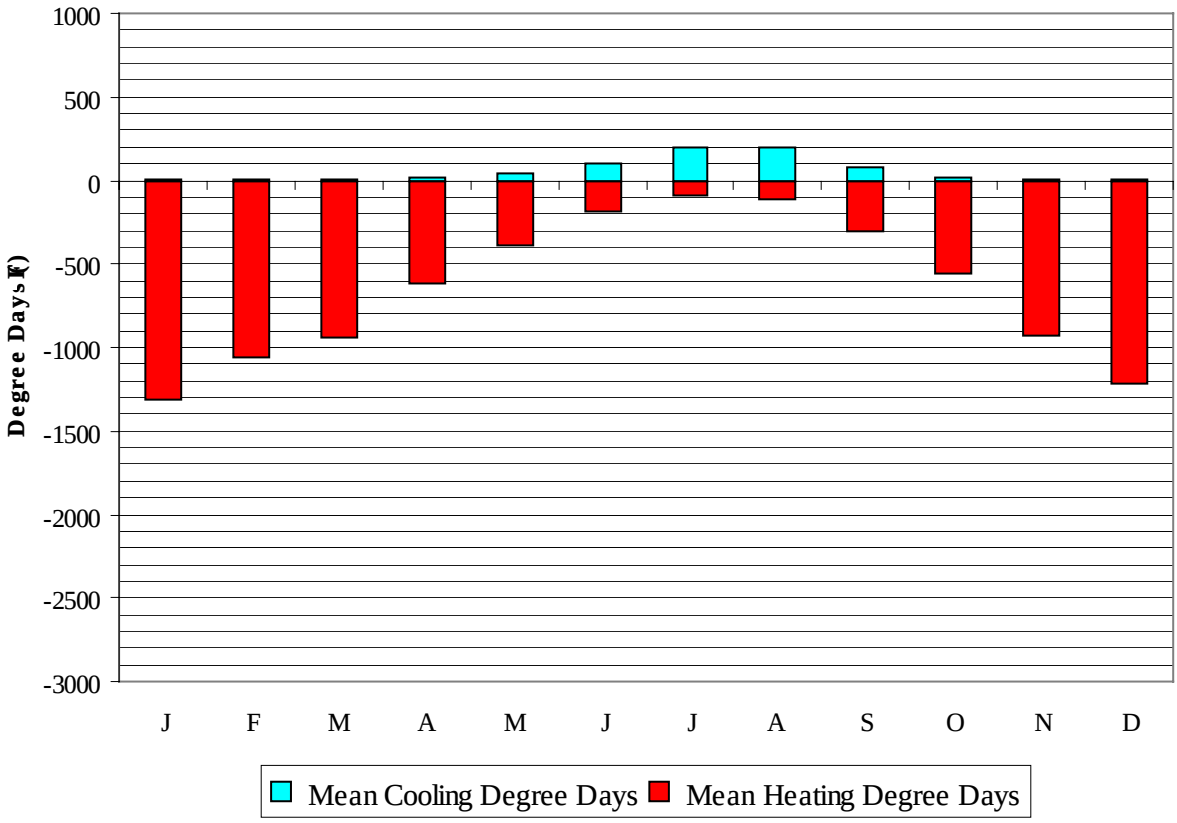
MALMSTROM AFB **MT** WMO No. 727755

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	51.0	42.2	27.3	8.4	-18.0	38.5	51.2	16.5	8.7
14-Jan	55.0	41.0	30.3	11.3	-23.0	32.2	45.4	17.8	9.5
21-Jan	55.0	43.1	35.0	16.1	-15.0	35.7	50.0	20.2	11.4
28-Jan	55.0	41.8	33.6	16.9	-24.0	32.9	44.5	19.0	11.5
4-Feb	57.0	41.6	32.3	13.2	-27.0	31.5	43.5	17.7	10.0
11-Feb	59.0	41.8	35.8	16.4	-13.0	31.5	45.7	19.3	10.9
18-Feb	56.0	43.1	37.0	17.7	-10.0	35.0	49.7	21.0	11.9
25-Feb	61.0	44.6	40.9	21.1	-9.0	38.5	54.1	21.7	13.0
4-Mar	64.0	46.4	39.5	18.7	-13.0	33.6	47.7	21.2	12.5
11-Mar	64.0	47.1	43.6	23.8	-2.0	35.7	52.7	24.0	14.5
18-Mar	64.0	45.4	45.7	26.3	-2.0	37.8	47.0	25.2	15.7
25-Mar	63.0	44.8	46.4	26.2	3.0	35.7	46.3	25.3	15.2
1-Apr	68.0	48.0	46.8	27.3	9.0	39.2	46.2	26.4	16.3
8-Apr	73.0	51.1	53.1	30.2	11.0	41.3	52.4	28.3	17.3
15-Apr	72.0	49.4	55.3	32.4	17.0	41.3	52.5	29.5	17.8
22-Apr	78.0	52.6	57.3	35.1	20.0	54.6	53.0	32.5	20.7
29-Apr	80.0	54.6	56.8	36.3	25.0	50.4	62.3	33.9	21.6
6-May	79.0	55.5	61.6	38.3	28.0	58.8	56.8	38.2	23.6
13-May	82.0	57.2	62.1	40.6	30.0	58.8	59.3	40.7	25.9
20-May	82.0	56.6	65.8	42.8	34.0	66.5	59.4	44.5	28.5
27-May	83.0	58.2	67.6	44.0	35.0	71.4	59.7	49.0	31.5
3-Jun	85.0	61.6	68.4	45.9	34.0	73.5	72.6	52.1	34.3
10-Jun	88.0	60.1	71.7	49.5	42.0	79.8	66.6	57.3	37.5
17-Jun	87.0	61.9	71.9	48.9	40.0	81.9	69.8	57.7	37.4
24-Jun	90.0	62.9	76.0	51.4	43.0	81.9	74.6	61.4	39.7
1-Jul	91.0	62.3	77.8	52.1	42.0	88.2	70.4	61.6	39.2
8-Jul	94.0	62.3	79.9	53.0	45.0	102.2	73.4	64.4	40.1
15-Jul	92.0	61.9	80.5	54.2	47.0	88.9	71.2	63.4	41.4
22-Jul	94.0	63.0	81.2	54.6	46.0	81.9	69.2	61.9	41.1
29-Jul	94.0	61.6	84.4	56.4	50.0	88.2	73.6	63.2	41.4
5-Aug	94.0	61.9	83.9	55.5	48.0	81.9	68.5	60.0	39.7
12-Aug	97.0	62.1	83.7	55.1	47.0	88.2	79.8	60.0	38.8
19-Aug	94.0	60.9	81.8	54.0	46.0	84.7	65.6	58.4	39.1
26-Aug	94.0	60.7	80.2	52.9	39.0	76.3	65.3	55.9	37.3
2-Sep	93.0	60.8	78.4	51.1	43.0	74.2	65.7	52.1	34.4
9-Sep	90.0	58.9	75.1	48.7	38.0	76.3	63.4	50.0	33.0
16-Sep	86.0	57.8	69.3	44.8	32.0	68.6	63.1	45.9	31.0
23-Sep	86.0	57.4	66.3	41.8	31.0	56.7	55.5	41.3	28.0
30-Sep	84.0	57.1	67.5	42.2	28.0	58.1	60.3	40.6	28.0
7-Oct	82.0	54.3	63.2	39.0	26.0	49.7	54.3	37.6	24.5
14-Oct	78.0	54.3	60.1	37.3	22.0	51.8	61.0	35.2	23.6
21-Oct	75.0	51.2	58.5	35.3	22.0	50.4	55.3	33.6	21.8
28-Oct	71.0	50.4	55.3	33.6	14.0	41.3	57.9	30.2	19.8
4-Nov	69.0	48.9	49.6	29.9	1.0	43.4	53.3	28.1	18.1
11-Nov	64.0	47.4	46.4	27.4	1.0	40.6	55.3	26.7	16.6
18-Nov	62.0	44.5	45.1	26.7	2.0	37.8	51.3	24.7	15.2
25-Nov	58.0	43.4	38.6	20.7	-11.0	33.6	46.2	21.0	12.3
2-Dec	54.0	41.0	37.6	19.3	-17.0	31.5	42.2	20.8	11.8
9-Dec	57.0	42.7	36.8	17.8	-22.0	35.0	49.8	20.4	11.7
16-Dec	56.0	42.6	37.3	19.7	-10.0	34.3	51.3	20.9	11.8
23-Dec	54.0	39.7	32.5	14.9	-21.0	32.9	45.4	18.5	10.8
31-Dec	54.0	41.5	30.7	13.1	-25.0	32.9	46.0	17.6	10.1

MALMSTROM AFB **MT** WMO No. 727755

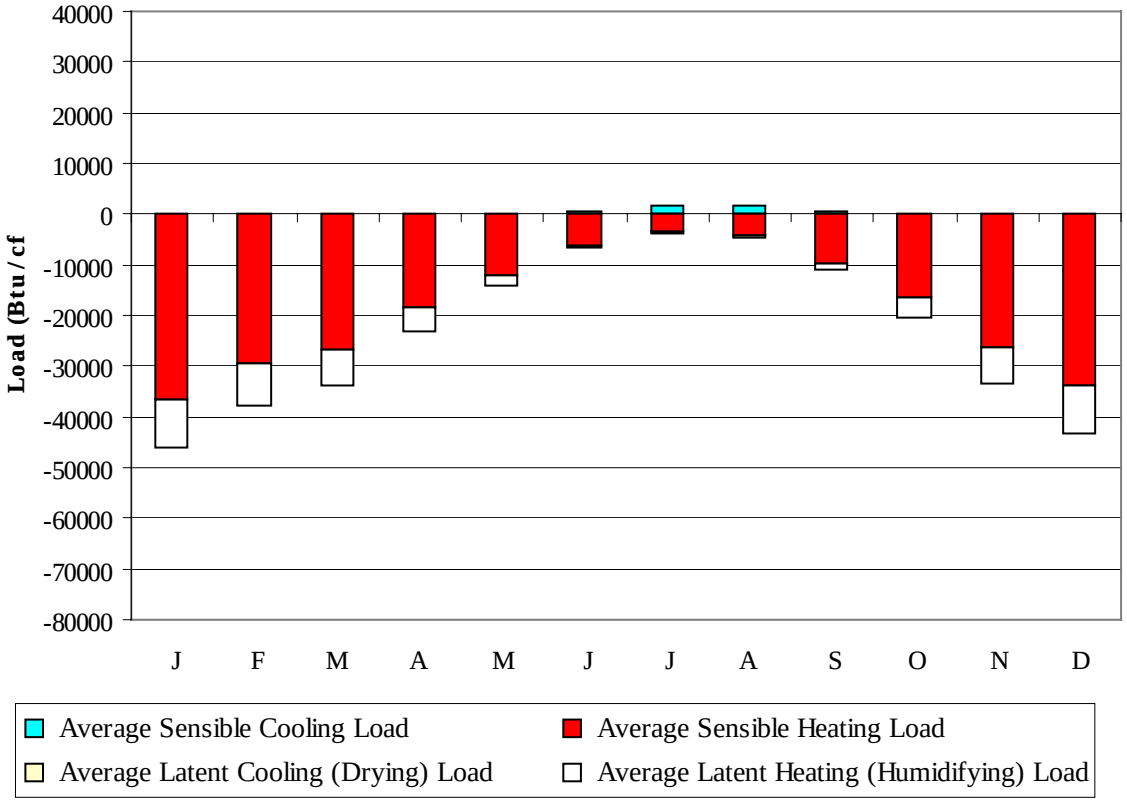
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1314
FEB	0	1054
MAR	1	940
APR	12	622
MAY	38	385
JUN	103	181
JUL	202	94
AUG	201	110
SEP	73	304
OCT	16	558
NOV	1	926
DEC	0	1216
ANN	647	7704

MALMSTROM AFB MT WMO No. 727755

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	-36473	0	-9663
FEB	0	-29518	0	-8149
MAR	0	-26768	0	-7226
APR	41	-18317	0	-4817
MAY	176	-12036	0	-1914
JUN	706	-6234	5	-526
JUL	1769	-3553	48	-302
AUG	1901	-4041	4	-403
SEP	504	-9670	0	-1407
OCT	58	-16638	0	-3715
NOV	0	-26332	0	-7108
DEC	0	-33917	0	-9192
ANN	5155	-223497	57	-54422

Average Annual Solar Radiation – Nearest Available Site

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

City: GREAT FALLS
State: MT
WBAN No: 24143
Lat(N): 47.48
Long(W): 111.37
Elev(ft): 3662

Stn Type: Primary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.75
Vert Gap: 0.326

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	460	750	1150	1530	1850	2110	2240	1870	1360	900	530	380	1260
	Std Dev	34	49	85	115	130	154	112	121	138	60	37	29	38
	Minimum	360	680	900	1340	1550	1810	2000	1660	1060	750	400	290	1160
	Maximum	540	870	1300	1780	2040	2500	2400	2120	1620	1000	580	430	1320
	Diffuse	250	380	550	710	800	820	680	600	500	370	260	210	510
Clear Day	Global	620	990	1540	2140	2570	2750	2640	2250	1710	1130	690	520	1630
NORTH	Global	150	230	340	450	570	670	640	480	350	250	160	130	370
	Diffuse	150	230	340	430	510	550	510	440	340	250	160	130	340
Clear Day	Global	120	180	270	400	610	750	680	450	300	210	140	110	350
EAST	Global	340	530	770	980	1140	1270	1370	1190	910	640	390	290	820
	Diffuse	190	290	420	540	610	650	610	540	430	310	210	160	410
Clear Day	Global	570	820	1140	1440	1620	1670	1620	1460	1210	900	620	490	1130
SOUTH	Global	920	1150	1250	1140	1020	1010	1120	1230	1290	1260	1000	850	1100
	Diffuse	320	420	520	580	600	620	590	550	490	410	320	270	480
Clear Day	Global	1860	2050	2010	1690	1360	1210	1260	1510	1840	2000	1870	1750	1700
WEST	Global	340	520	740	940	1050	1190	1280	1110	880	620	390	290	780
	Diffuse	190	300	430	540	620	660	620	550	430	310	210	160	420
Clear Day	Global	570	820	1140	1440	1620	1670	1620	1460	1210	900	620	490	1130

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

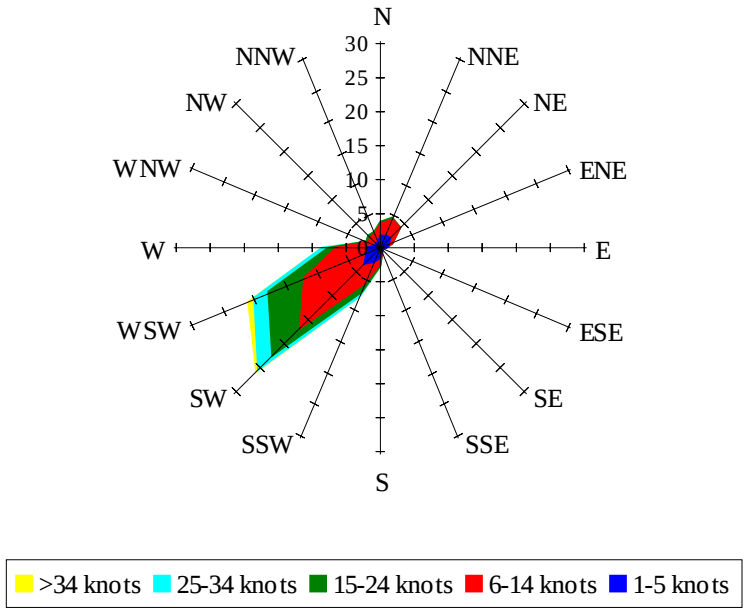
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	280	490	800	1090	1330	1530	1630	1350	960	600	330	220	880
NORTH	Unshaded	110	160	230	300	380	440	410	320	240	170	110	87	250
	Shaded	85	130	190	250	310	370	350	270	200	140	94	70	210
EAST	Unshaded	230	370	550	700	820	910	990	860	650	450	270	190	580
	Shaded	190	310	450	560	640	700	770	680	530	380	230	170	470
SOUTH	Unshaded	700	850	890	770	660	630	700	810	900	930	750	650	770
	Shaded	670	770	660	430	340	360	350	370	570	780	720	630	550
WEST	Unshaded	230	360	530	670	750	850	920	800	630	440	270	190	550
	Shaded	200	300	430	530	590	650	710	630	510	360	230	160	440

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	27	58	71	61	29	44	77	97	95	75
	M.Cloudy	19	43	53	44	21	30	58	73	70	55
NORTH	M.Clear	8	12	14	12	8	17	15	16	16	14
	M.Cloudy	7	14	16	14	8	13	16	18	18	16
EAST	M.Clear	68	61	16	12	8	81	76	40	16	14
	M.Cloudy	30	38	17	14	8	43	52	33	18	16
SOUTH	M.Clear	34	74	92	78	37	10	36	57	57	34
	M.Cloudy	17	44	57	46	19	10	29	45	43	27
WEST	M.Clear	8	12	14	59	69	10	15	16	43	79
	M.Cloudy	7	14	16	37	32	10	16	18	34	52
M.Clear	(% hrs)	25	22	18	16	18	38	37	32	28	24
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	20	55	76	74	50	3	24	33	22	0
	M.Cloudy	12	37	53	51	34	2	16	23	15	0
NORTH	M.Clear	6	12	14	14	11	2	7	9	7	0
	M.Cloudy	5	12	16	15	11	1	7	9	6	0
EAST	M.Clear	62	73	36	14	11	14	36	9	7	0
	M.Cloudy	22	39	27	15	11	4	17	9	6	0
SOUTH	M.Clear	17	57	83	80	51	12	66	85	62	0
	M.Cloudy	8	32	51	48	29	4	27	38	25	0
WEST	M.Clear	6	12	14	43	75	2	7	12	39	0
	M.Cloudy	5	12	16	30	40	1	7	10	17	0
M.Clear	(% hrs)	44	43	39	37	37	22	25	23	23	24

Wind Summary - December, January, and February

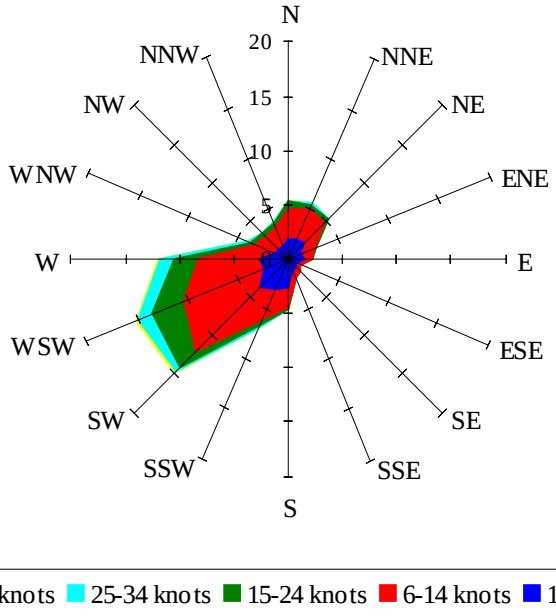
Labels of Percent Frequency on North Axis



Percent Calm = 11.07

Wind Summary - March, April, and May

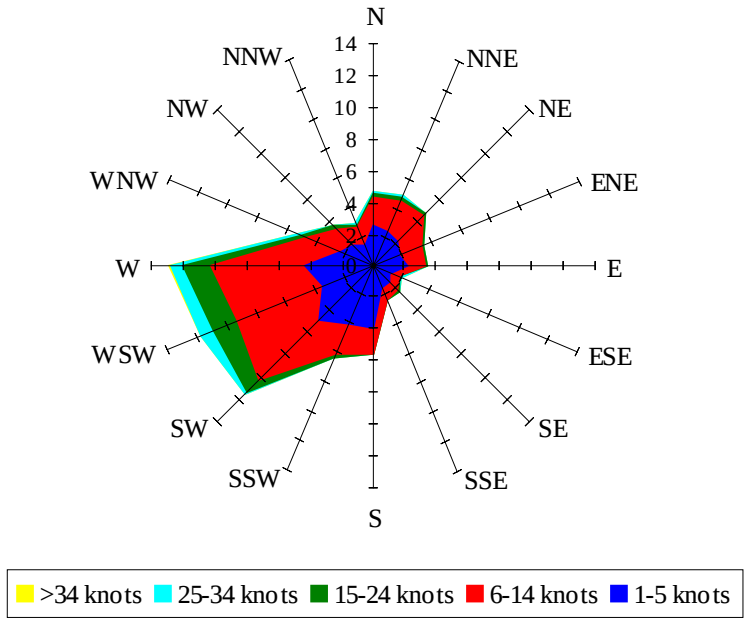
Labels of Percent Frequency on North Axis



Percent Calm = 10.04

Wind Summary - June, July, and August

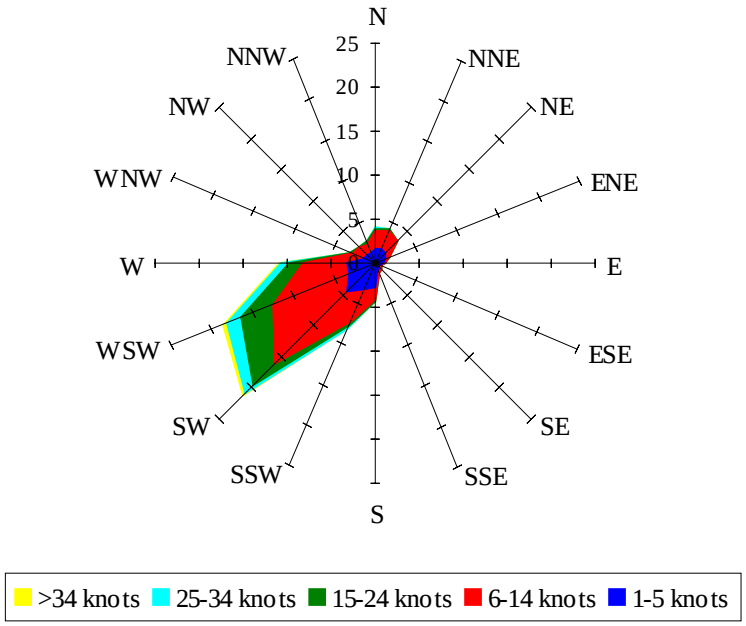
Labels of Percent Frequency on North Axis



Percent Calm = 13.33

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 10.98