ELLSWORTH AFB SD	
Latitude = 44.15 N	WMO No. 726625
Longitude =103.10 W	Elevation = 3278 feet
Period of Record = 1967 to 1996	Average Pressure = 26.55 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	102	67	54	12.2	S
0.4% Occurrence	96	66	58	10.0	S
1.0% Occurrence	92	65	62	10.6	SSE
2.0% Occurrence	88	65	65	10.1	SSE
Mean Daily Range	22	-	-	-	-
97.5% Occurrence	2	1	4	9.6	N
99.0% Occurrence	-5	-6	3	8.2	N
99.6% Occurrence	-10	-11	2	7.4	N
Median of Extreme Lows	-16	-16	2	8.3	NNW
		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	73	87	112	9.7	SSE
0.4% Occurrence	70	86	97	9.8	SSE
1.0% Occurrence	68	84	88	9.9	SSE
2.0% Occurrence	67	83	84	9.8	SSE
		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	120	80	0.72	8.2	SSE
0.4% Occurrence	108	78	0.65	8.3	SSE
1.0% Occurrence	98	76	0.58	9.1	S
2.0% Occurrence	91	74	0.54	8.8	SSE
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	73	581	10	198

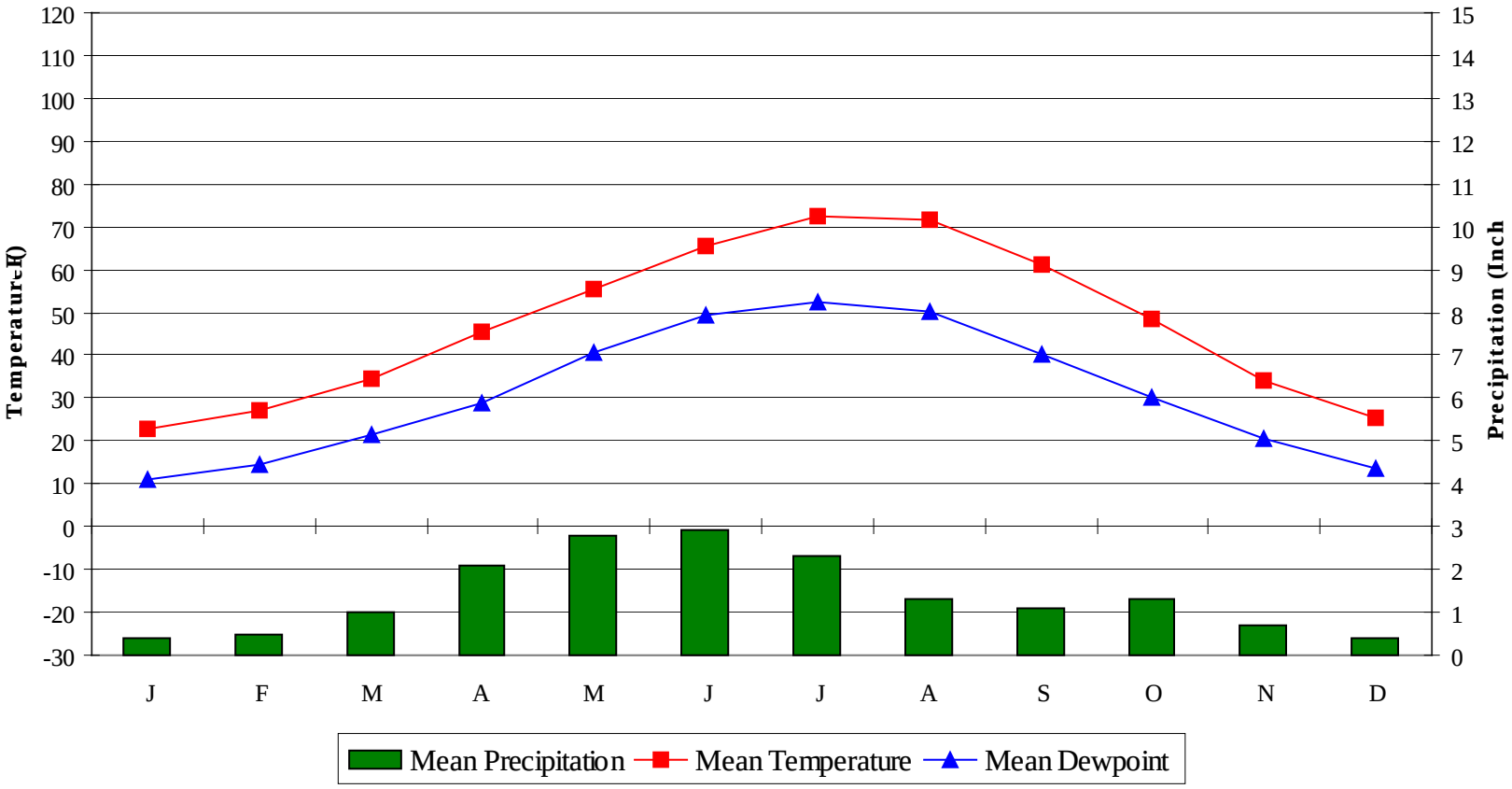
Other Site Data

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	3.0	90	0.1 + 0.6
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 (#)**
49.7	86	15	98

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

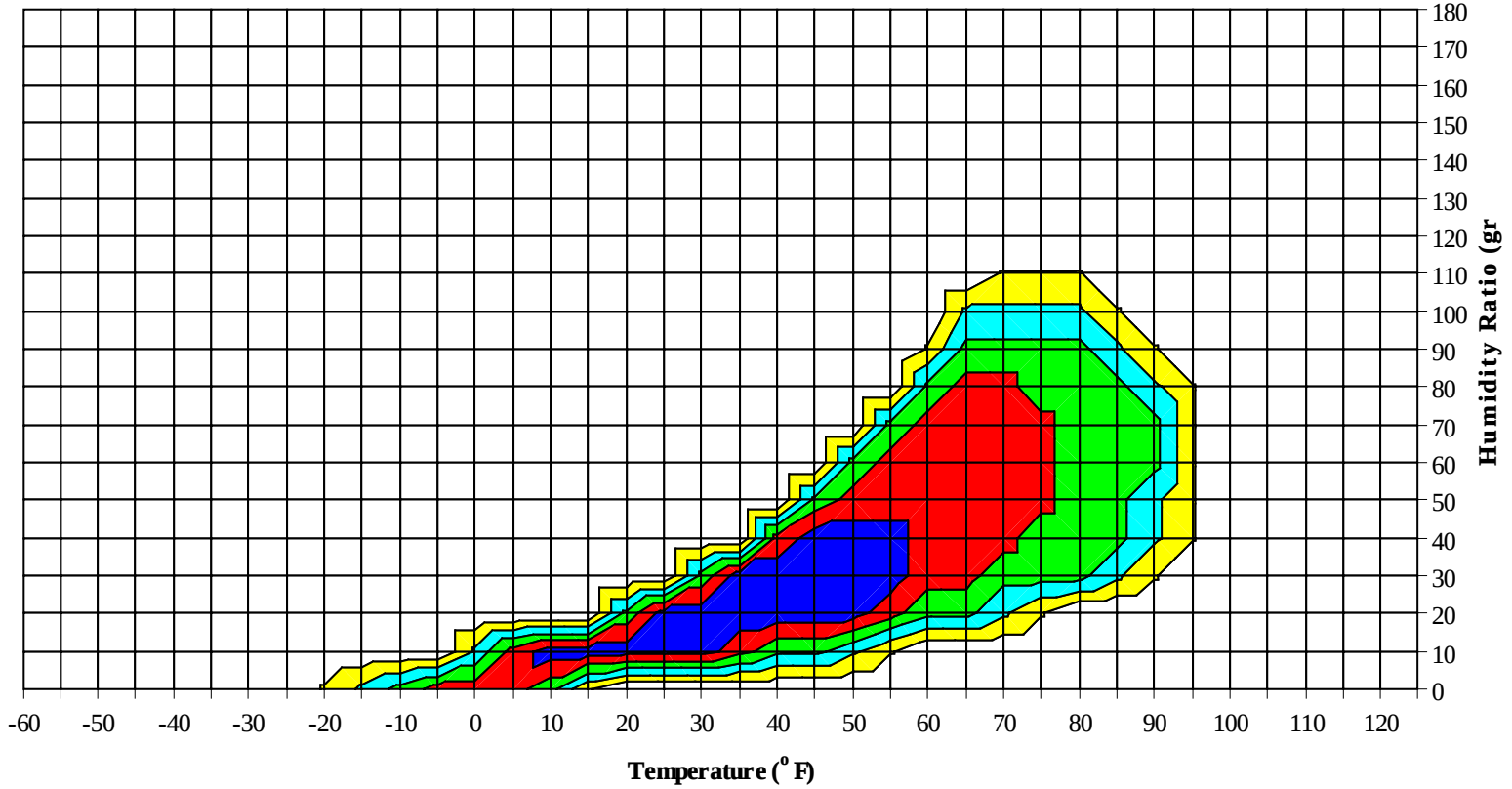
ELLSWORTH AFB **SD** WMO No. 726625

Average Annual Climate



ELLSWORTH AFB **SD** WMO No. 726625

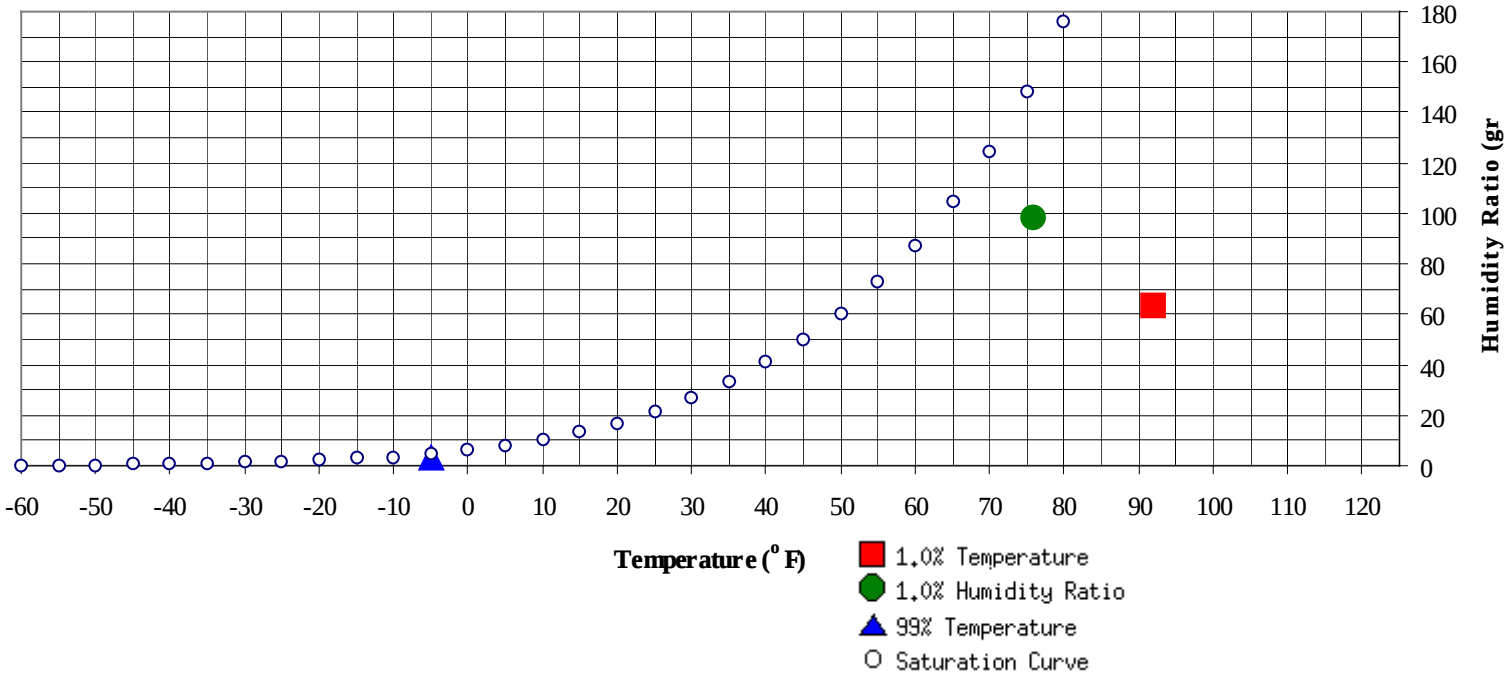
Long Term Psychrometric Summary



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

ELLSWORTH AFB **SD** WMO No. 726625

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	-5	2.9	-0.8

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	98	75.9	67	63	33.5

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	92	63.3	65.4	32.0

ELLSWORTH AFB SD WMO No. 726625

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)
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												1	0	1	52.9
70 / 74		0		0	47.0		1		1	48.0	0	3	1	4	50.6
65 / 69		1		1	47.5		2	0	2	46.7	0	6	1	7	48.1
60 / 64	0	3	0	4	44.9		4	0	4	44.3	1	15	4	20	45.6
55 / 59	1	6	1	7	42.0	0	11	1	12	42.0	2	18	8	27	43.1
50 / 54	2	12	3	17	39.8	2	16	4	21	40.0	6	24	13	43	40.8
45 / 49	5	21	6	32	37.3	5	21	10	36	37.3	10	29	22	60	38.1
40 / 44	12	24	17	53	34.5	13	28	21	62	34.4	21	35	34	90	35.3
35 / 39	22	30	29	81	31.2	24	26	33	83	31.3	39	32	44	115	32.2
30 / 34	32	27	34	93	27.8	35	24	36	96	28.0	55	30	45	130	28.6
25 / 29	34	23	32	90	23.9	36	20	29	86	24.2	44	19	31	94	24.4
20 / 24	28	18	26	72	19.6	28	16	21	65	19.8	30	15	18	63	19.9
15 / 19	25	18	22	65	15.1	22	16	19	56	15.1	16	10	13	39	15.6
10 / 14	19	17	20	56	10.3	18	15	17	50	10.4	11	5	8	25	10.9
5 / 9	17	17	17	52	5.7	16	12	13	41	5.8	6	3	4	13	5.9
0 / 4	19	16	17	52	0.9	10	6	8	24	0.8	4	2	3	9	1.4
-5 / -1	12	8	12	32	-3.3	7	3	5	15	-3.3	2	0	1	3	-2.6
-10 / -6	10	4	9	23	-7.7	5	2	4	11	-7.4	1		0	1	-6.3
-15 / -11	7	2	3	12	-12.3	2	1	1	4	-12.2	0			0	-11.5
-20 / -16	1	0	1	2	-16.4	1	0	1	2	-17.4	0			0	-16.0
-25 / -21	0		0	0	-20.8	1	0	1	2	-21.5					
-30 / -26						0			0	-25.0					

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.

ELLSWORTH AFB SD WMO No. 726625

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)
110 / 114															
105 / 109												0		0	68.0
100 / 104												1	0	1	66.2
95 / 99											0	3	1	3	65.5
90 / 94		0		0	60.0		1	0	1	63.2	0	7	2	10	65.2
85 / 89		1	0	2	57.6		4	1	4	62.0	1	19	6	25	65.4
80 / 84		4	1	4	56.1	0	12	3	15	60.6	1	31	13	44	63.9
75 / 79	0	8	2	10	54.3	1	20	8	29	59.3	6	41	22	69	62.1
70 / 74	1	13	4	18	52.3	2	31	14	47	56.9	15	46	32	93	59.9
65 / 69	1	17	8	26	50.0	8	37	23	68	54.3	33	38	43	114	57.4
60 / 64	4	25	14	42	47.6	20	41	34	95	51.9	53	28	50	130	55.1
55 / 59	8	29	20	58	45.0	37	37	42	116	49.3	60	16	38	114	51.9
50 / 54	18	36	29	84	42.6	53	30	47	129	46.3	41	6	21	69	48.0
45 / 49	31	35	38	104	39.9	56	21	42	119	42.9	22	3	10	36	43.7
40 / 44	47	26	43	116	36.6	41	8	23	72	38.7	7	0	2	9	39.7
35 / 39	50	20	36	106	33.1	21	4	8	32	34.1	1	0	0	2	35.1
30 / 34	45	17	30	92	29.3	9	2	4	14	30.0					
25 / 29	21	6	10	36	24.9	2	0	0	3	26.0					
20 / 24	9	2	4	15	20.4	0		0	0	22.3					
15 / 19	3	1	1	5	15.4										
10 / 14	1	0	0	1	10.8										
5 / 9	0			0	6.0										
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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.

ELLSWORTH AFB SD WMO No. 726625

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)
110 / 114		0		0	69.0										
105 / 109		1	0	1	67.6		0		0	67.5					
100 / 104		4	1	5	67.2		3	0	3	65.8		1		1	65.0
95 / 99		13	3	16	66.4		11	2	13	65.4		3	0	3	63.1
90 / 94	0	26	8	35	66.3	0	29	7	36	65.1		9	1	10	61.8
85 / 89	2	41	17	60	65.4	1	44	14	59	64.4	0	17	3	21	60.5
80 / 84	5	51	29	85	63.8	3	48	25	77	63.0	1	27	8	35	59.2
75 / 79	17	49	41	107	62.1	12	46	38	97	61.2	2	33	15	51	57.4
70 / 74	41	34	51	126	60.3	34	33	52	118	59.5	8	37	24	68	55.5
65 / 69	61	17	45	124	58.4	60	19	49	128	57.7	19	32	31	82	53.6
60 / 64	67	8	33	107	56.0	71	10	36	117	55.1	34	30	40	105	51.4
55 / 59	37	4	15	56	52.7	44	4	17	64	51.5	49	22	42	113	48.7
50 / 54	15	1	4	20	48.9	19	1	5	25	47.2	50	16	36	101	45.8
45 / 49	3		1	3	44.6	5	0	1	6	43.4	40	6	21	67	42.1
40 / 44	0			0	42.0	1	0	0	1	40.2	22	4	12	38	37.8
35 / 39											9	2	4	15	33.7
30 / 34											5	1	3	8	29.2
25 / 29											1		0	1	24.5
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															

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.

ELLSWORTH AFB SD WMO No. 726625

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)
110 / 114															
105 / 109															
100 / 104															
95 / 99															
90 / 94		1		1	57.1										
85 / 89		2	0	2	55.7										
80 / 84		7	1	8	55.0										
75 / 79	0	12	1	13	53.7		0		0	53.0					
70 / 74	0	20	3	24	51.9		4		4	49.3		0		0	46.8
65 / 69	3	28	8	39	49.9	0	6	0	7	47.9		1		1	46.4
60 / 64	8	30	17	55	47.5	1	12	1	14	46.4		3	0	4	45.2
55 / 59	16	36	28	79	45.3	1	18	4	23	43.5	1	5	1	7	42.3
50 / 54	32	33	37	102	43.1	5	25	11	41	40.9	2	11	2	15	39.7
45 / 49	47	28	48	124	40.2	16	30	21	67	38.2	6	21	7	34	37.1
40 / 44	48	22	44	114	36.8	26	32	31	89	34.9	12	30	16	57	34.2
35 / 39	42	15	29	87	33.1	36	29	40	106	31.9	24	32	30	87	31.2
30 / 34	30	9	19	58	28.9	42	29	43	114	28.4	36	32	38	106	27.7
25 / 29	15	2	9	26	25.1	45	21	36	101	24.4	39	30	40	108	23.9
20 / 24	4	1	3	8	20.2	27	14	21	62	20.0	38	22	34	95	19.6
15 / 19	2	1	1	3	16.2	17	9	13	39	15.5	28	17	23	67	15.3
10 / 14	0	1	0	1	12.2	10	6	9	25	10.9	20	15	18	53	10.5
5 / 9	0		0	1	6.6	7	4	5	16	6.0	18	10	14	42	5.9
0 / 4	0		0	0	1.8	4	2	3	9	0.8	7	7	9	22	1.0
-5 / -1						1	0	1	3	-3.4	6	4	5	15	-3.3
-10 / -6						1	0	0	1	-7.3	5	4	5	14	-7.7
-15 / -11						0			0	-10.7	3	2	3	8	-12.4
-20 / -16											3	1	2	6	-16.9
-25 / -21											1	0	0	2	-21.7
-30 / -26											0		0	0	-27.1

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.

ELLSWORTH AFB SD WMO No. 726625

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

Period of Record = 1967 to 1996

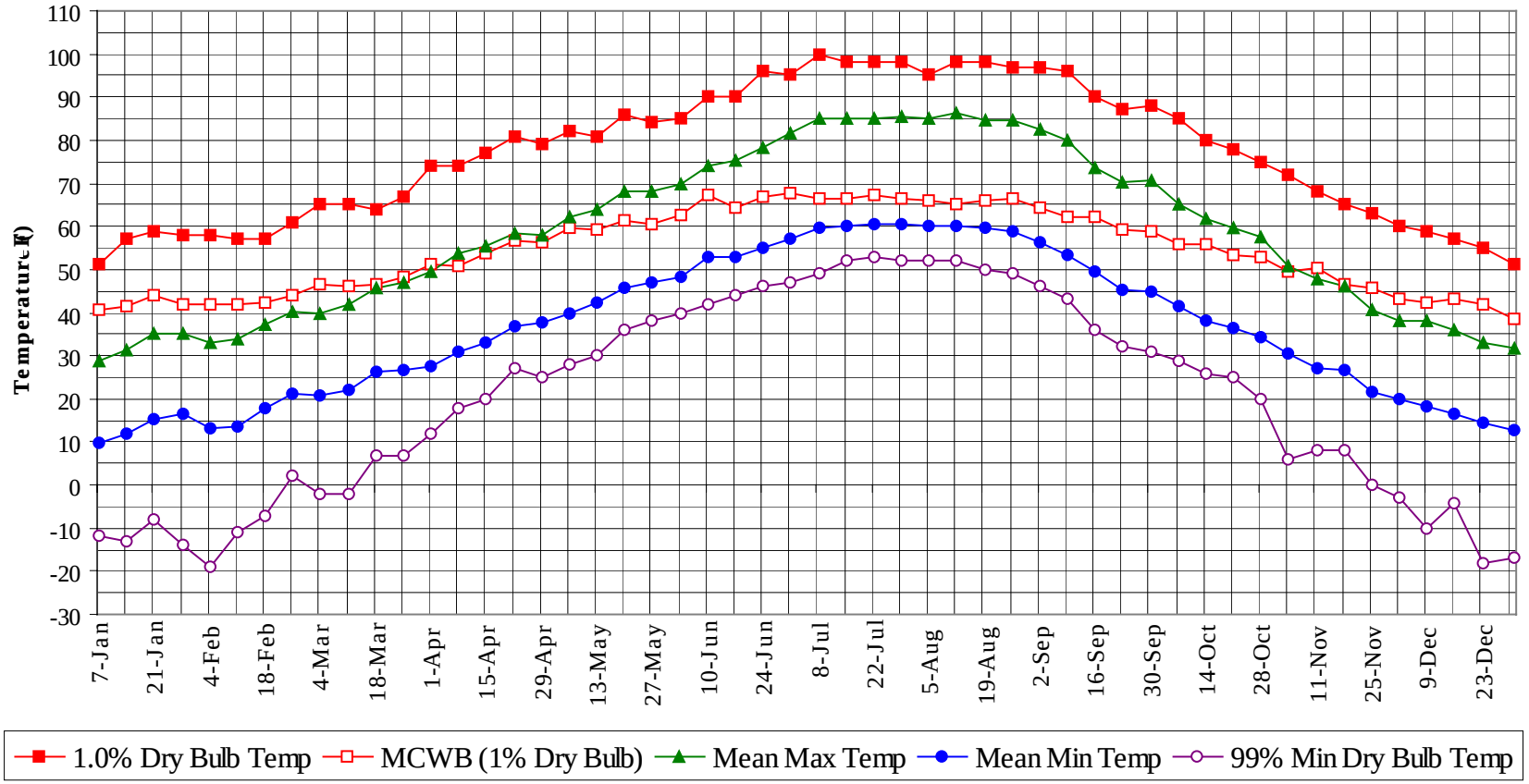
Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
110 / 114		0		0	69.0
105 / 109		1	0	1	67.6
100 / 104		9	1	10	66.5
95 / 99	0	29	6	36	65.7
90 / 94	0	73	19	92	65.1
85 / 89	3	128	42	174	64.2
80 / 84	10	181	78	268	62.4
75 / 79	39	211	128	377	60.5
70 / 74	101	221	181	503	58.2
65 / 69	186	204	209	599	55.7
60 / 64	258	209	230	697	52.6
55 / 59	255	206	216	676	48.6
50 / 54	243	211	212	667	44.4
45 / 49	245	215	226	686	40.2
40 / 44	249	209	240	698	36.0
35 / 39	269	189	253	712	32.2
30 / 34	289	170	253	711	28.4
25 / 29	237	121	187	545	24.3
20 / 24	164	89	129	382	19.8
15 / 19	113	71	91	275	15.3
10 / 14	80	59	73	212	10.5
5 / 9	65	46	53	165	5.8
0 / 4	44	32	40	116	1.0
-5 / -1	29	16	23	68	-3.3
-10 / -6	23	10	18	51	-7.6
-15 / -11	11	5	8	24	-12.3
-20 / -16	5	2	4	11	-16.9
-25 / -21	2	0	1	4	-21.6
-30 / -26	0		0	0	-26.9

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.

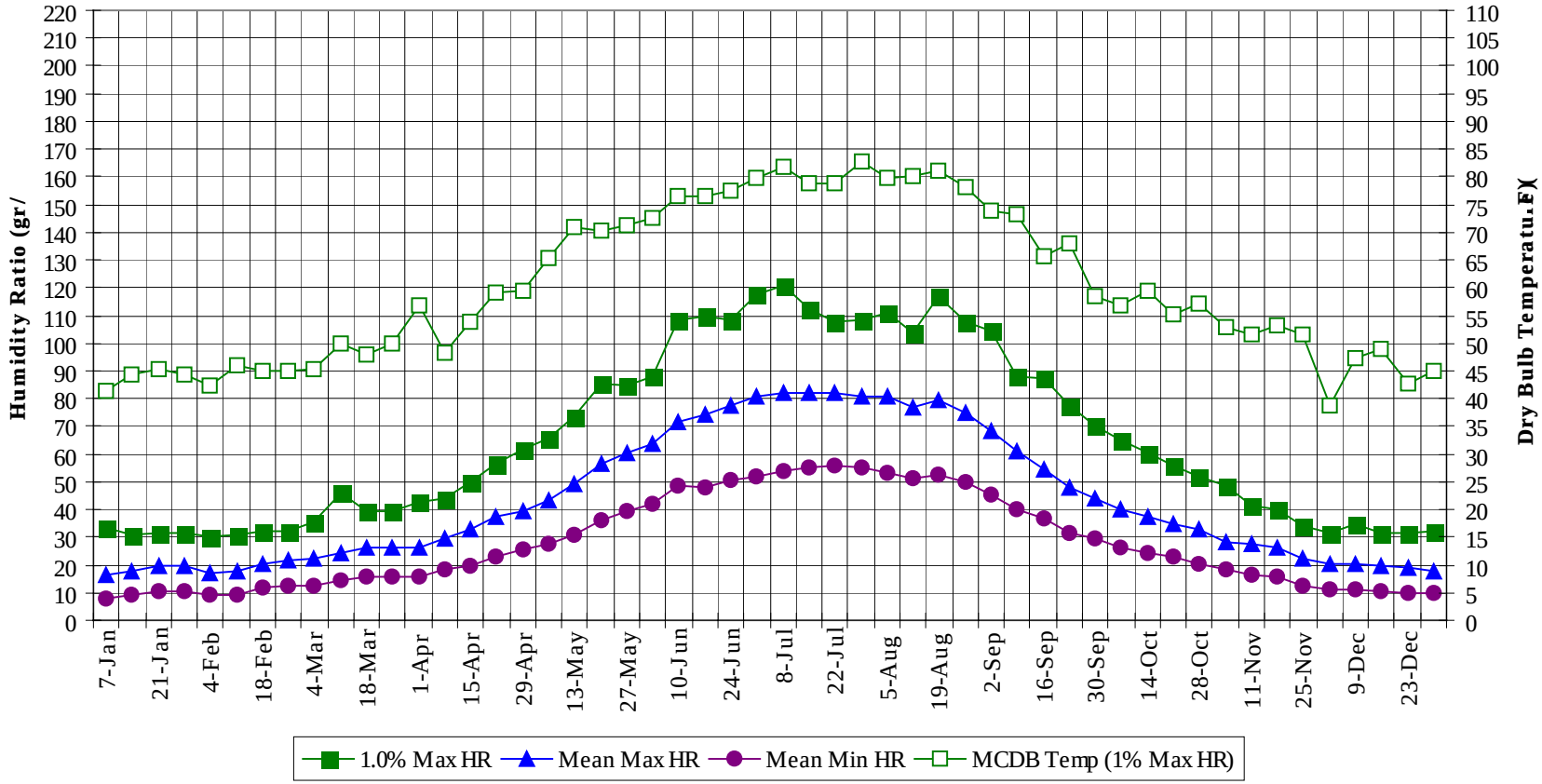
ELLSWORTH AFB **SD** WMO No. 726625

Annual Summary of Temperatures



ELLSWORTH AFB **SD** WMO No. 726625

Long Term Humidity and Dry Bulb Temperature Summary



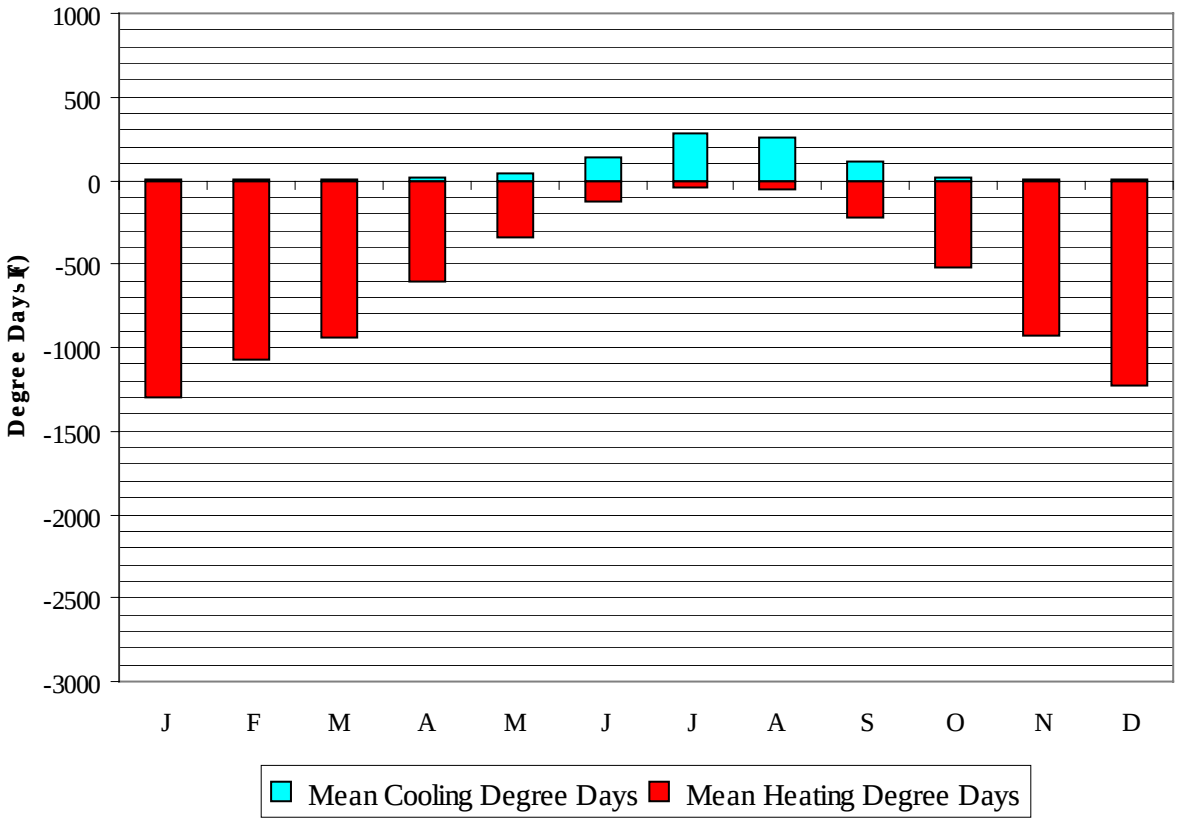
ELLSWORTH AFB SD WMO No. 726625

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	40.5	28.9	9.6	-12.0	33.6	41.5	16.5	8.1
14-Jan	57.0	41.6	31.2	11.7	-13.0	30.8	44.5	17.5	8.9
21-Jan	59.0	43.9	35.1	15.3	-8.0	31.5	45.4	19.9	10.2
28-Jan	58.0	42.0	35.1	16.7	-14.0	31.5	44.4	19.7	10.8
4-Feb	58.0	41.7	32.8	13.0	-19.0	30.1	42.5	17.2	9.3
11-Feb	57.0	41.9	34.0	13.6	-11.0	30.8	46.1	17.7	9.3
18-Feb	57.0	42.4	37.2	17.6	-7.0	32.2	45.0	20.6	11.5
25-Feb	61.0	43.9	40.4	21.1	2.0	32.2	44.9	22.0	12.6
4-Mar	65.0	46.5	39.8	20.6	-2.0	35.7	45.2	22.2	12.8
11-Mar	65.0	46.1	42.1	21.9	-2.0	46.2	50.0	24.5	14.2
18-Mar	64.0	46.4	45.7	26.1	7.0	39.2	48.0	26.1	15.6
25-Mar	67.0	48.1	47.1	26.8	7.0	39.2	50.0	26.4	15.8
1-Apr	74.0	51.1	49.7	27.5	12.0	42.7	56.8	26.5	16.0
8-Apr	74.0	50.7	53.7	30.9	18.0	44.1	48.4	29.5	18.1
15-Apr	77.0	53.8	55.3	32.9	20.0	49.7	53.7	32.7	19.8
22-Apr	81.0	56.9	58.6	36.6	27.0	56.7	59.2	37.7	23.2
29-Apr	79.0	56.1	57.8	37.9	25.0	61.6	59.4	39.7	25.8
6-May	82.0	59.8	62.3	39.7	28.0	65.8	65.4	43.6	27.4
13-May	81.0	59.1	63.9	42.2	30.0	73.5	70.8	49.4	31.0
20-May	86.0	61.4	68.0	45.7	36.0	85.4	70.3	56.7	36.2
27-May	84.0	60.6	68.2	47.2	38.0	84.7	71.4	60.7	39.7
3-Jun	85.0	62.8	69.6	48.1	40.0	88.2	72.4	63.5	41.9
10-Jun	90.0	67.1	74.1	52.9	42.0	108.5	76.6	71.9	48.4
17-Jun	90.0	64.1	75.1	53.1	44.0	109.9	76.4	74.5	48.1
24-Jun	96.0	66.8	78.2	55.1	46.0	108.5	77.6	77.7	50.6
1-Jul	95.0	67.6	81.6	57.1	47.0	117.6	79.7	80.7	51.8
8-Jul	100.0	66.5	85.0	59.6	49.0	121.1	81.6	82.4	53.9
15-Jul	98.0	66.6	85.2	60.2	52.0	112.0	78.9	82.2	55.3
22-Jul	98.0	67.5	84.9	60.5	53.0	107.8	78.8	82.3	55.6
29-Jul	98.0	66.3	85.6	60.6	52.0	108.5	82.9	80.9	55.1
5-Aug	95.0	66.2	84.8	59.9	52.0	111.3	79.9	80.5	53.4
12-Aug	98.0	65.1	86.2	59.9	52.0	103.6	80.0	76.7	51.3
19-Aug	98.0	65.9	84.7	59.5	50.0	116.9	81.2	79.2	52.7
26-Aug	97.0	66.3	84.8	58.7	49.0	107.8	78.2	74.8	49.6
2-Sep	97.0	64.2	82.7	56.4	46.0	104.3	73.9	68.6	45.4
9-Sep	96.0	62.2	80.0	53.4	43.0	88.2	73.3	61.1	40.2
16-Sep	90.0	62.0	73.4	49.4	36.0	87.5	65.8	54.8	37.1
23-Sep	87.0	59.4	70.1	45.3	32.0	77.7	67.9	48.1	31.5
30-Sep	88.0	58.8	70.8	45.0	31.0	70.0	58.6	44.1	29.4
7-Oct	85.0	55.9	65.3	41.7	29.0	65.1	56.7	40.3	26.3
14-Oct	80.0	55.7	61.7	38.3	26.0	60.2	59.6	37.1	24.3
21-Oct	78.0	53.5	59.8	36.3	25.0	56.0	55.1	34.7	23.3
28-Oct	75.0	52.8	57.8	34.3	20.0	51.8	57.3	32.6	20.6
4-Nov	72.0	49.7	50.8	30.5	6.0	48.3	53.0	28.5	18.4
11-Nov	68.0	50.2	47.8	27.3	8.0	41.3	51.7	27.3	16.6
18-Nov	65.0	46.7	45.9	26.8	8.0	39.9	53.2	26.0	15.9
25-Nov	63.0	45.6	40.8	21.5	0.0	34.3	51.6	22.2	12.6
2-Dec	60.0	43.1	38.2	19.7	-3.0	31.5	38.7	20.3	11.3
9-Dec	59.0	42.1	38.3	18.3	-10.0	35.0	47.4	20.4	11.2
16-Dec	57.0	43.0	36.0	16.4	-4.0	31.5	48.9	19.7	10.5
23-Dec	55.0	42.0	33.0	14.3	-18.0	31.5	42.5	18.8	9.9
31-Dec	51.0	38.7	31.8	12.9	-17.0	32.2	45.1	17.7	9.5

ELLSWORTH AFB **SD** WMO No. 726625

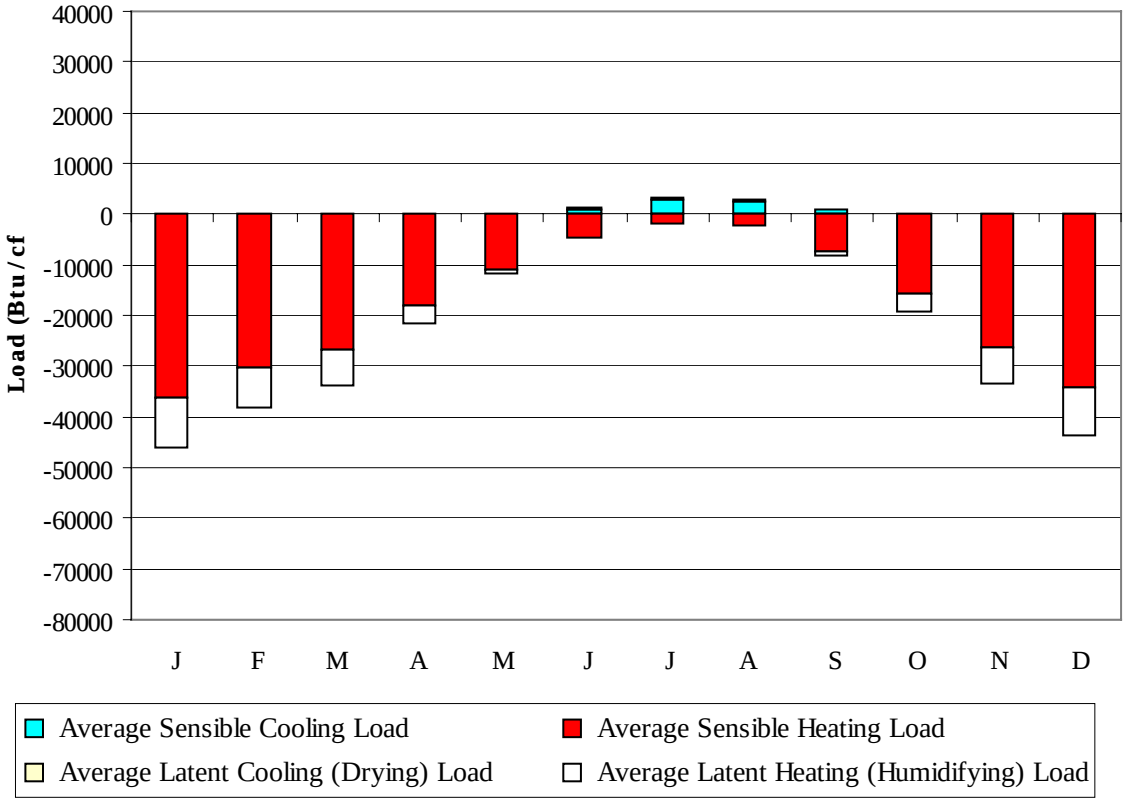
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1303
FEB	0	1077
MAR	2	942
APR	17	606
MAY	47	340
JUN	141	127
JUL	281	44
AUG	262	53
SEP	111	223
OCT	23	524
NOV	1	927
DEC	0	1232
ANN	885	7398

ELLSWORTH AFB **SD** WMO No. 726625

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	-36189	0	-9725
FEB	0	-30102	0	-8184
MAR	3	-26799	0	-6821
APR	69	-17882	0	-3805
MAY	229	-10796	11	-871
JUN	1074	-4612	353	-92
JUL	2760	-1895	483	-18
AUG	2571	-2231	423	-73
SEP	896	-7351	11	-948
OCT	110	-15691	0	-3325
NOV	0	-26334	0	-6923
DEC	0	-34330	0	-9259
ANN	7712	-214212	1281	-50044

Average Annual Solar Radiation – Nearest Available Site

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

City: RAPID CITY
State: SD
WBAN No: 24090
Lat(N): 44.05
Long(W): 103.07
Elev(ft): 3169

Stn Type: Secondary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.65
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	590	870	1250	1610	1890	2130	2150	1920	1490	1040	660	510	1350
	Std Dev	39	39	84	129	121	135	72	76	118	67	34	29	30
	Minimum	510	770	1090	1440	1620	1890	2010	1790	1170	900	580	470	1290
	Maximum	660	950	1410	1880	2080	2370	2260	2100	1700	1160	720	570	1420
	Diffuse	270	380	540	660	730	720	650	560	450	350	280	230	490
Clear Day	Global	770	1130	1670	2220	2580	2720	2630	2300	1810	1260	830	660	1720
NORTH	Global	170	250	340	440	560	640	600	470	350	260	190	150	370
	Diffuse	170	250	340	430	490	520	490	430	340	260	190	150	340
Clear Day	Global	150	210	300	410	590	720	640	470	320	230	160	140	360
EAST	Global	430	600	820	1020	1150	1270	1290	1200	970	730	470	390	860
	Diffuse	220	310	430	520	580	610	590	530	430	320	240	190	410
Clear Day	Global	640	880	1180	1440	1570	1610	1560	1450	1230	940	680	570	1150
SOUTH	Global	1150	1270	1260	1110	950	910	980	1160	1330	1390	1180	1100	1150
	Diffuse	340	430	520	550	560	560	550	530	470	410	350	310	460
Clear Day	Global	1930	2050	1960	1580	1230	1070	1120	1400	1760	1980	1920	1850	1650
WEST	Global	440	610	820	970	1080	1170	1210	1150	960	720	480	390	830
	Diffuse	220	310	440	530	590	610	600	540	430	330	240	200	420
Clear Day	Global	640	880	1180	1440	1570	1610	1560	1450	1230	940	680	570	1150

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	360	580	870	1150	1360	1550	1570	1390	1060	700	420	310	950
NORTH	Unshaded	120	170	240	300	360	410	390	310	240	180	130	110	250
	Shaded	100	150	210	260	320	360	340	280	210	160	110	91	220
EAST	Unshaded	290	420	580	730	820	910	920	860	690	510	330	260	610
	Shaded	260	360	490	600	670	740	750	710	580	440	290	230	510
SOUTH	Unshaded	870	940	890	740	600	550	590	740	910	1010	890	840	800
	Shaded	850	870	680	430	340	340	340	380	600	880	860	820	610
WEST	Unshaded	300	430	580	690	770	840	860	830	690	510	330	270	590
	Shaded	270	370	490	570	630	680	700	680	580	440	290	240	500

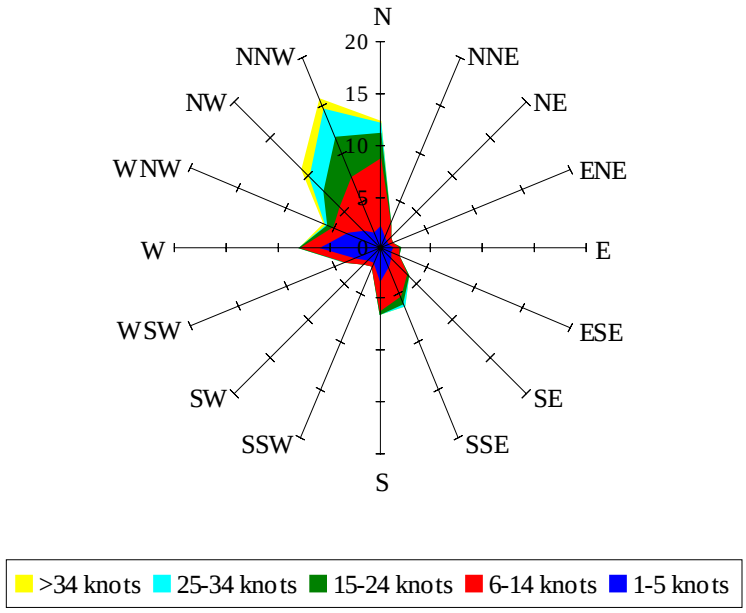
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9

		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	41	69	75	57	22	54	85	99	92	66
	M.Cloudy	27	48	54	41	15	35	61	73	65	46
NORTH	M.Clear	10	13	14	12	7	13	15	16	16	13
	M.Cloudy	10	15	16	13	6	13	17	18	17	14
EAST	M.Clear	76	52	14	12	7	85	69	26	16	13
	M.Cloudy	35	33	16	13	6	44	47	24	17	14
SOUTH	M.Clear	47	80	88	67	25	12	39	53	47	22
	M.Cloudy	24	45	52	39	12	12	31	42	35	19
WEST	M.Clear	10	13	26	68	65	12	15	16	55	81
	M.Cloudy	10	15	23	40	25	12	17	18	40	49
M.Clear	(% hrs)	32	31	28	28	29	51	49	45	38	35

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	32	66	81	72	43	13	36	39	21	0
	M.Cloudy	18	45	55	48	28	9	24	27	14	0
NORTH	M.Clear	8	13	14	13	10	5	9	9	7	0
	M.Cloudy	7	14	16	15	10	4	9	10	6	0
EAST	M.Clear	76	67	22	13	10	39	35	9	7	0
	M.Cloudy	27	40	20	15	10	14	18	10	6	0
SOUTH	M.Clear	28	64	81	71	39	39	84	89	57	0
	M.Cloudy	13	38	49	42	22	14	36	41	23	0
WEST	M.Clear	8	13	14	56	77	5	9	24	45	0
	M.Cloudy	7	14	16	35	38	4	9	16	19	0
M.Clear	(% hrs)	54	53	55	52	51	34	36	35	37	38

Wind Summary - December, January, and February

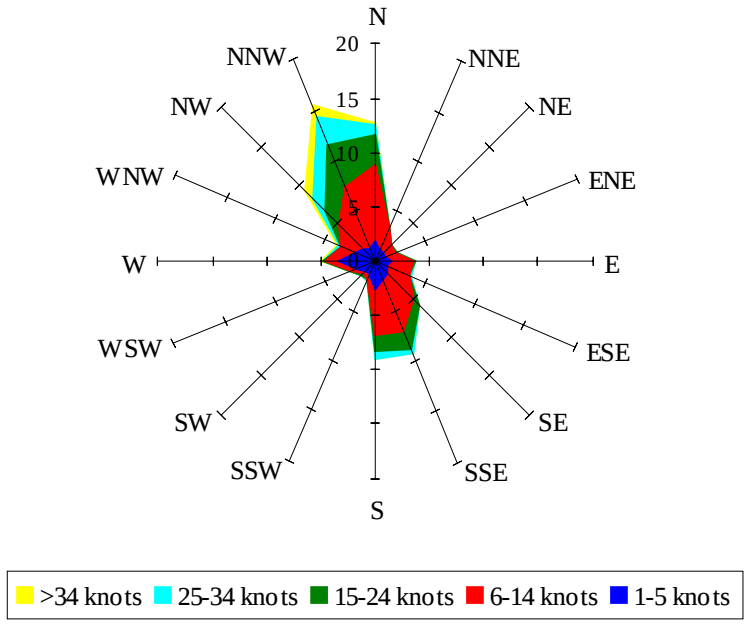
Labels of Percent Frequency on North Axis



Percent Calm = 14.89

Wind Summary - March, April, and May

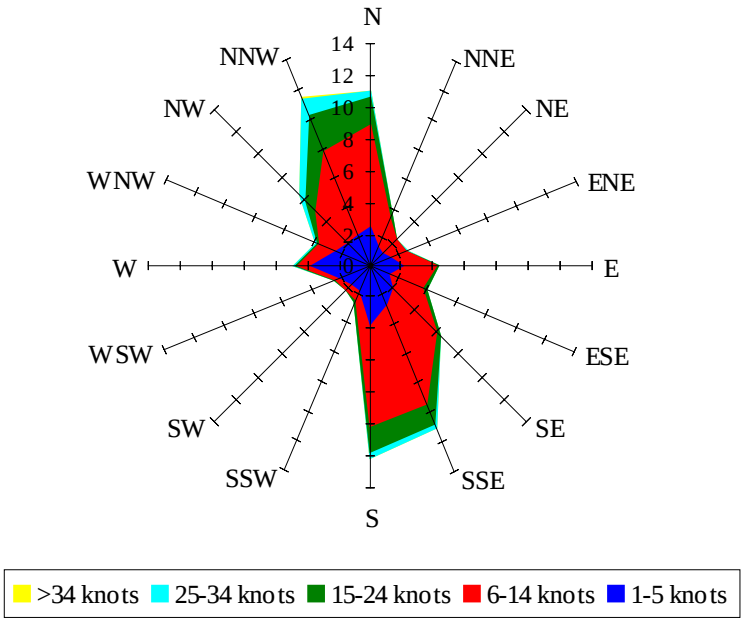
Labels of Percent Frequency on North Axis



Percent Calm = 8.85

Wind Summary - June, July, and August

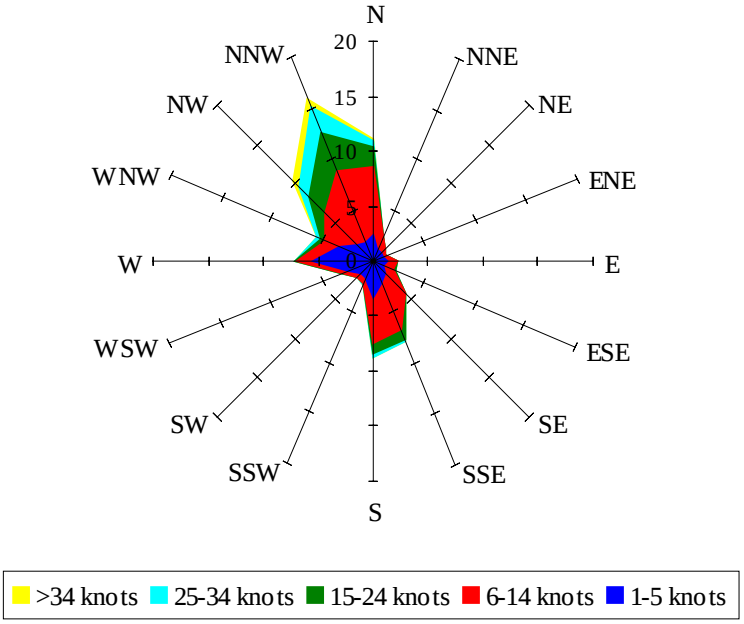
Labels of Percent Frequency on North Axis



Percent Calm = 10.09

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 12.72