

ABERDEEN SD

Latitude = 45.45 N

Longitude = 98.43 W

Period of Record = 1973 to 1996

WMO No. 726590

Elevation = 1299 feet

Average Pressure = 28.57 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	100	73	83	16.1	S
0.4% Occurrence	95	72	86	13.9	S
1.0% Occurrence	91	71	89	13.3	S
2.0% Occurrence	88	70	86	12.9	S
Mean Daily Range	21	-	-	-	-
97.5% Occurrence	-7	-8	3	10.1	N
99.0% Occurrence	-14	-14	2	8.4	N
99.6% Occurrence	-19	-19	1	7.6	S
Median of Extreme Lows	-28	-28	1	5.5	S
	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	80	90	144	12.5	SSE
0.4% Occurrence	76	87	122	12.1	S
1.0% Occurrence	74	86	112	12.1	S
2.0% Occurrence	72	83	105	12.1	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	148	84	0.94	10.3	ESE
0.4% Occurrence	130	82	0.82	11.3	S
1.0% Occurrence	120	80	0.77	10.6	S
2.0% Occurrence	109	78	0.69	11.3	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		60	611	168	716

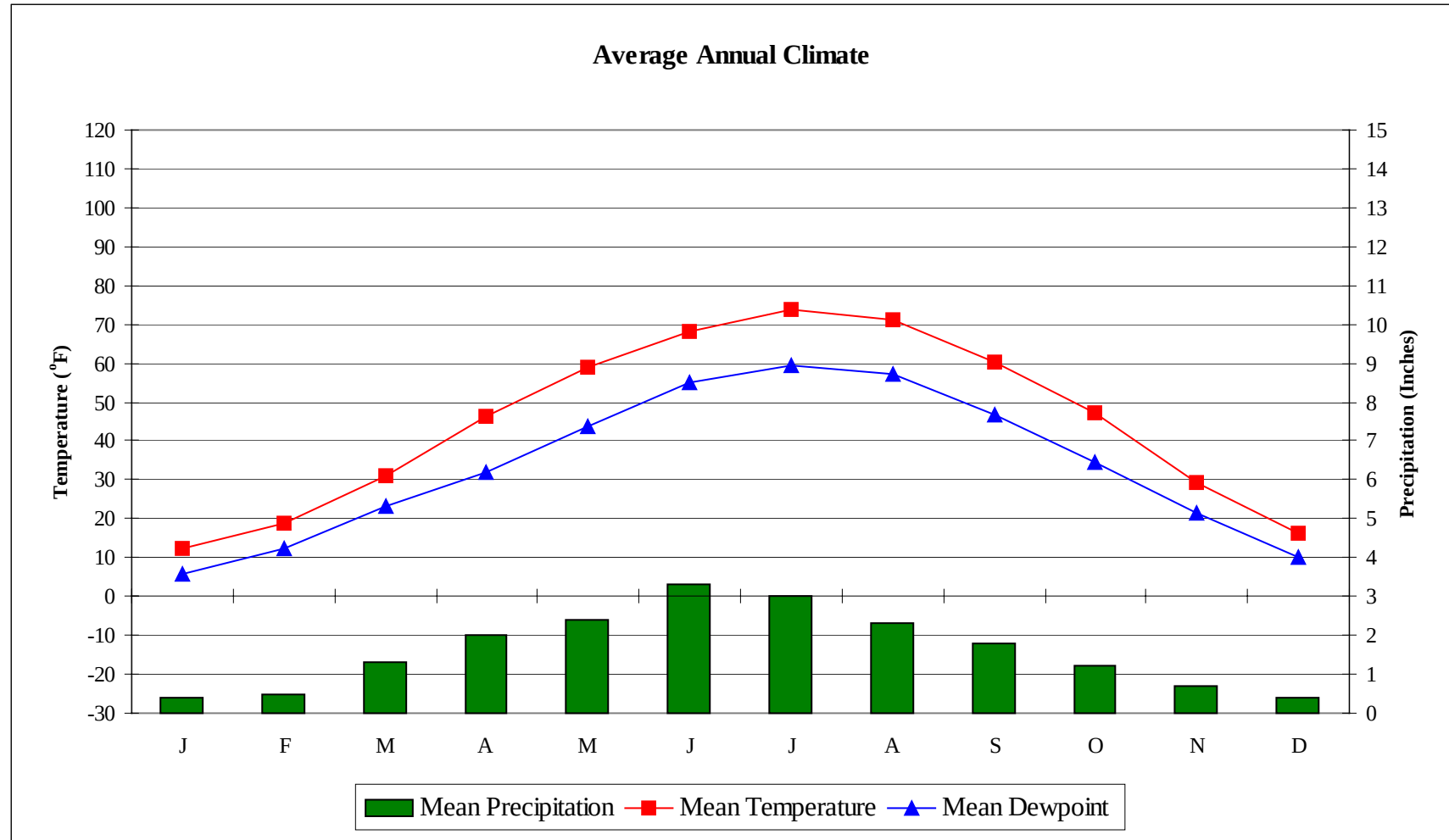
Other Site Data

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	3.3	90	0.7 + 0.6
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 (#)
46.9	N/A	43	76

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

ABERDEEN SD

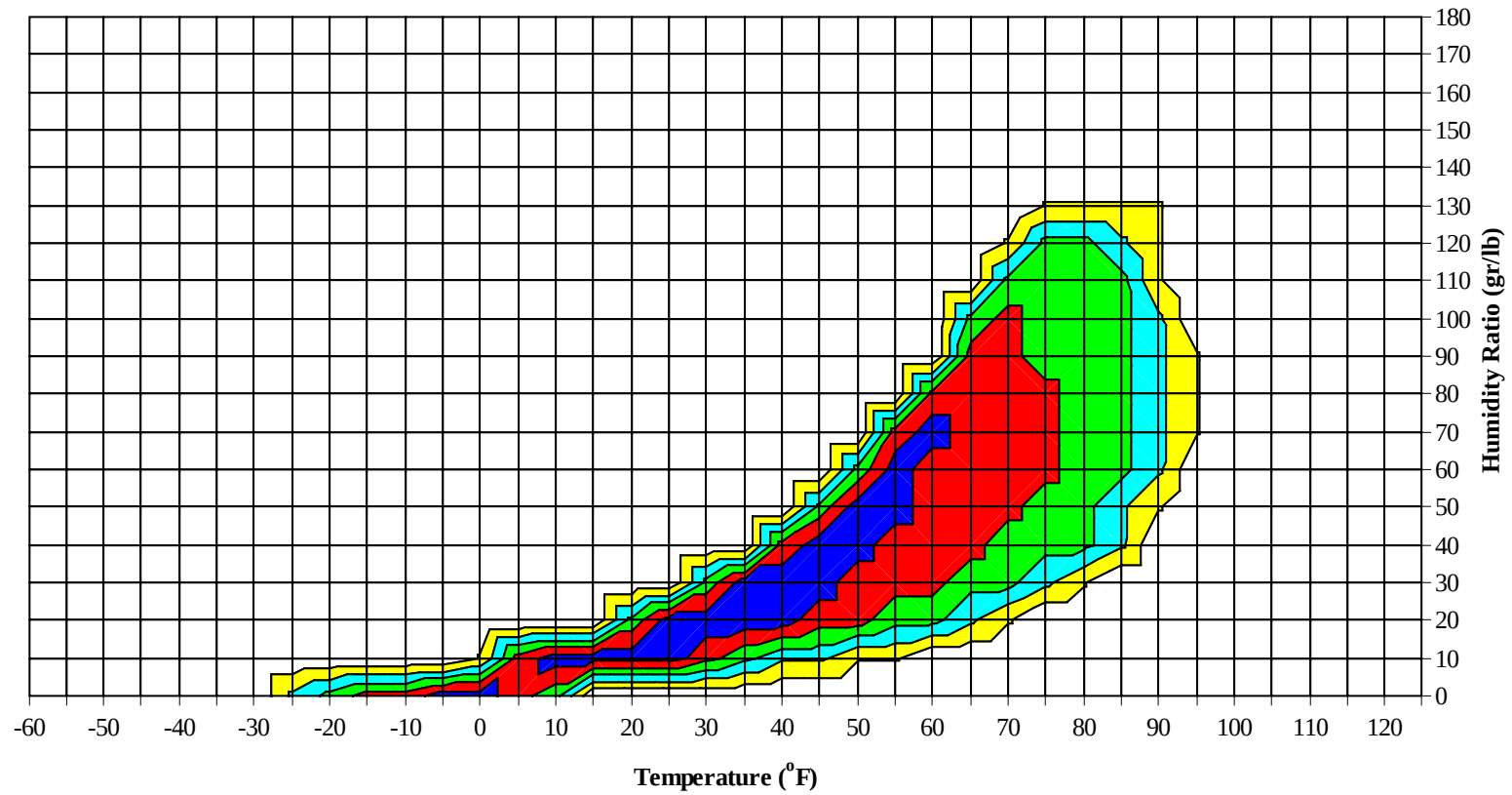
WMO No. 726590



ABERDEEN SD

WMO No. 726590

Long Term Psychrometric Summary

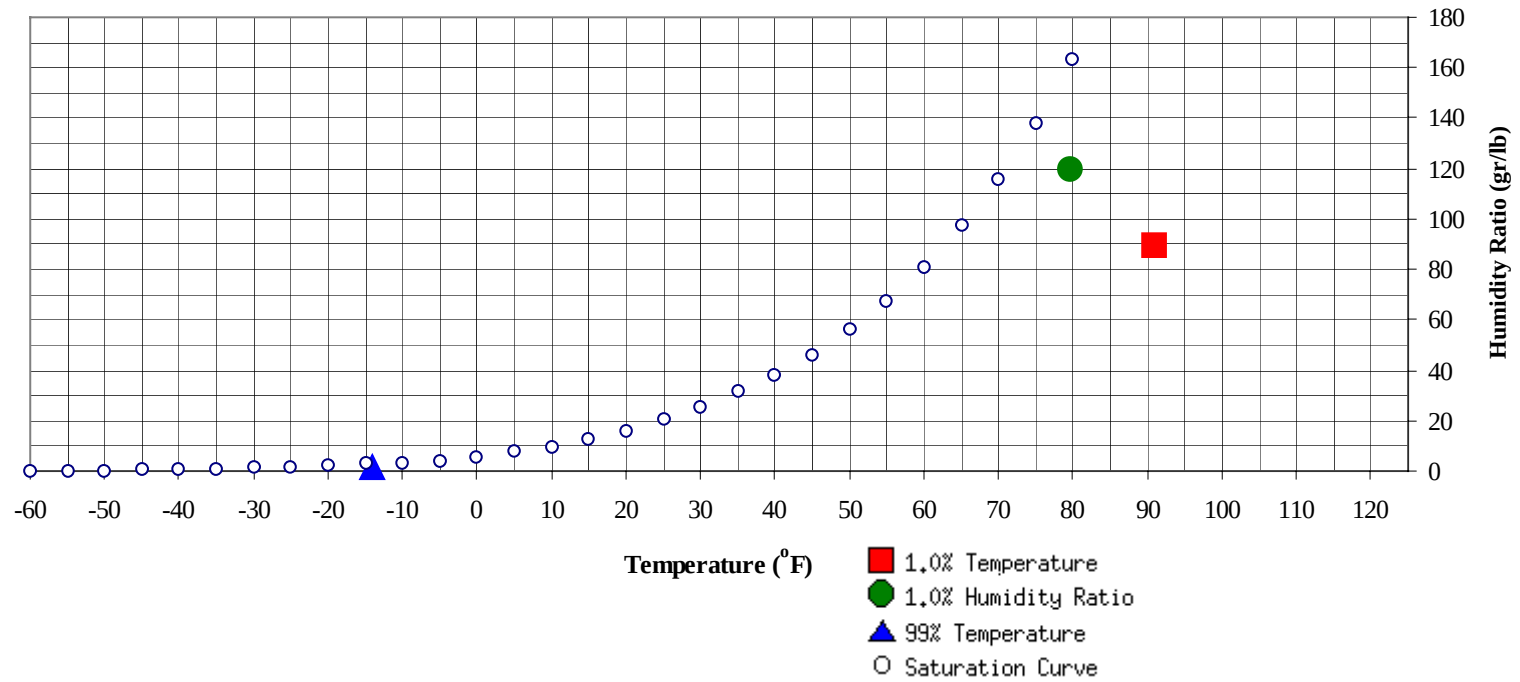


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

ABERDEEN SD

WMO No. 726590

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
99% Dry Bulb	-14	1.7	-3.1		119.7	79.6	73.4	71	37.9

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	91	89.8	71.3	36.0

ABERDEEN SD

WMO No. 726590

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															
85 / 89															
80 / 84															
75 / 79												0	0	0	54.8
70 / 74												0	0	0	52.1
65 / 69												1	1	2	52.5
60 / 64		0		0	46.0		1	0	1	46.8		5	2	7	48.8
55 / 59		0	0	0	44.0		3	1	4	44.4		8	4	12	46.2
50 / 54		1	0	1	41.6		4	2	6	42.7	1	15	10	26	43.8
45 / 49		2	1	3	38.9	0	7	4	11	39.6	3	20	15	38	41.1
40 / 44	1	9	3	13	36.6	1	14	9	24	37.1	14	36	32	81	37.9
35 / 39	5	15	15	35	33.5	12	23	25	61	34.0	34	46	48	128	34.2
30 / 34	16	20	22	58	29.8	28	28	35	91	30.3	63	41	52	156	30.3
25 / 29	23	26	30	79	25.3	34	26	30	90	25.6	40	27	30	97	25.1
20 / 24	28	31	24	83	20.7	26	21	22	69	20.7	29	18	22	70	20.5
15 / 19	29	26	27	83	16.1	21	22	20	63	15.7	25	12	11	48	15.9
10 / 14	29	25	22	77	11.0	19	23	20	62	10.7	14	9	9	32	10.9
5 / 9	22	22	22	65	6.0	21	18	18	57	6.0	8	5	6	19	6.0
0 / 4	20	23	23	67	1.0	18	14	16	48	1.2	9	4	4	17	1.4
-5 / -1	16	16	17	49	-3.3	12	8	8	29	-3.3	3	1	1	5	-3.3
-10 / -6	17	16	17	50	-7.8	11	6	8	26	-7.6	3	1	1	5	-7.6
-15 / -11	17	10	13	40	-12.2	8	4	4	16	-12.2	1	0	0	1	-11.3
-20 / -16	14	4	7	25	-16.7	5	2	2	8	-16.9	0	0	0	0	-16.8
-25 / -21	8	2	3	13	-21.5	3	1	1	5	-21.6	0	0	0	0	-21.8
-30 / -26	3	0	0	3	-26.5	1	0	0	1	-26.5	0			0	
-35 / -31	0	0		0	-30.0	1	0	0	1	-31.6					
-40 / -36						0	0	0	0	-37.0					
-45 / -41						0			0	-40.0					
-50 / -46						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.

ABERDEEN SD

WMO No. 726590

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												0	0	0	75.8
100 / 104												0	0	0	73.3
95 / 99		0	0	0	62.7		0		0	67.7		1	1	2	72.0
90 / 94		0	0	0	61.5		1	0	1	67.3		6	3	9	71.6
85 / 89		1	1	2	62.2		5	3	9	66.1	0	20	13	33	69.9
80 / 84		3	2	5	59.4		16	10	27	64.0	0	34	25	58	67.7
75 / 79		8	4	12	57.9		30	20	50	61.0	5	48	37	91	64.9
70 / 74	0	10	7	17	55.1	3	36	27	67	58.5	17	50	45	113	62.7
65 / 69	0	15	11	27	52.4	12	40	35	86	56.3	38	39	44	121	60.2
60 / 64	3	24	17	44	49.7	28	41	42	110	53.7	62	26	37	124	57.5
55 / 59	8	32	25	65	46.9	44	33	41	118	51.0	57	11	23	91	53.6
50 / 54	16	37	33	86	44.4	47	22	33	102	47.2	36	4	9	49	49.6
45 / 49	30	35	35	99	41.5	45	14	21	80	43.1	17	1	2	20	45.5
40 / 44	38	33	42	113	38.0	37	7	12	56	38.9	6		0	6	41.4
35 / 39	53	22	31	105	34.1	21	2	3	26	34.6	1			1	37.8
30 / 34	50	15	21	86	30.1	10	0	1	11	30.1					
25 / 29	26	5	8	39	25.4	2			2	25.4					
20 / 24	10	1	2	13	20.6	0			0	20.0					
15 / 19	3	1	1	5	15.3										
10 / 14	1	0	0	1	11.2										
5 / 9	1	0	0	1	5.7										
0 / 4	0	0	0	0	1.2										
-5 / -1	0			0	-2.0										
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															
-45 / -41															
-50 / -46															

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ABERDEEN SD

WMO No. 726590

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		0	0	0	73.4		0	0	0	72.0					
100 / 104		3	2	5	73.5		2	1	3	72.2		0	0	0	69.6
95 / 99		9	6	15	72.9		5	3	8	71.8		1	1	2	68.7
90 / 94	0	19	14	32	71.9		15	8	23	71.5		4	2	6	69.1
85 / 89	0	37	26	63	69.9	0	31	22	53	69.5		10	5	15	67.1
80 / 84	3	56	41	100	68.2	1	46	33	79	67.8	0	17	12	29	64.7
75 / 79	16	53	44	113	66.5	9	55	45	109	65.8	1	27	18	46	62.5
70 / 74	40	43	47	130	64.8	31	46	48	125	63.9	7	33	25	65	60.2
65 / 69	55	21	36	113	62.3	52	29	39	120	61.6	13	37	30	79	57.8
60 / 64	63	7	23	93	59.0	60	14	27	101	58.2	24	40	38	102	55.0
55 / 59	48	1	8	57	54.9	50	6	15	70	54.0	41	34	41	116	51.9
50 / 54	17	0	1	18	51.1	30	0	5	35	50.2	46	22	33	101	48.2
45 / 49	4			4	46.5	13	0	1	14	45.8	46	11	20	77	44.0
40 / 44	0			0	42.3	3		0	3	41.4	33	3	10	45	39.6
35 / 39						0		0	0	36.7	18	1	4	23	35.4
30 / 34						0		0	0	31.0	9	0	1	10	31.3
25 / 29								0	0		2		0	2	25.8
20 / 24								0	0		1			1	21.9
15 / 19								0	0						
10 / 14								0	0						
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															
-15 / -11															
-20 / -16															
-25 / -21															
-30 / -26															
-35 / -31															
-40 / -36															
-45 / -41															
-50 / -46															

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ABERDEEN SD

WMO No. 726590

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		0		0	61.6										
85 / 89		1	0	1	59.7										
80 / 84		3	1	4	58.4										
75 / 79		6	2	8	58.2		0		0	57.0					
70 / 74		13	6	19	56.3		1	0	1	53.7					
65 / 69	1	19	10	30	54.0		2	0	2	51.3					
60 / 64	3	30	20	53	51.4		4	1	5	48.5					
55 / 59	11	38	30	79	48.9	1	8	4	13	47.6		1	0	1	44.3
50 / 54	21	42	38	101	45.4	3	14	8	26	44.3	0	1	0	1	43.2
45 / 49	40	37	44	121	42.3	6	19	12	36	40.8	0	4	1	5	39.5
40 / 44	47	30	39	116	38.2	9	22	20	51	36.9	1	10	4	15	36.3
35 / 39	46	19	27	92	34.1	21	33	29	83	33.4	6	18	13	37	33.2
30 / 34	40	9	20	69	30.0	45	42	51	137	29.8	17	28	29	74	29.8
25 / 29	22	2	6	30	25.5	46	33	42	121	25.2	27	35	34	96	25.4
20 / 24	11	1	3	15	20.9	39	24	30	93	20.6	38	35	38	110	20.7
15 / 19	4	0	1	5	16.6	27	16	18	61	16.1	39	31	33	103	16.1
10 / 14	1	0	0	1	11.5	18	9	11	38	11.1	35	23	26	85	11.0
5 / 9	0			0	8.0	11	4	7	23	6.5	20	17	20	57	6.2
0 / 4						6	4	4	13	1.1	22	16	16	54	1.0
-5 / -1						3	2	2	7	-2.9	14	10	10	33	-3.2
-10 / -6						3	1	2	6	-6.9	11	9	10	30	-7.6
-15 / -11						1	0	1	2	-11.7	8	5	8	21	-12.1
-20 / -16						0		0	0	-16.3	6	3	5	13	-16.6
-25 / -21						0		0	0	-22.0	3	1	2	6	-21.7
-30 / -26											1	0	0	1	-26.4
-35 / -31											0	0		0	-31.1
-40 / -36															
-45 / -41															
-50 / -46															

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ABERDEEN SD

WMO No. 726590

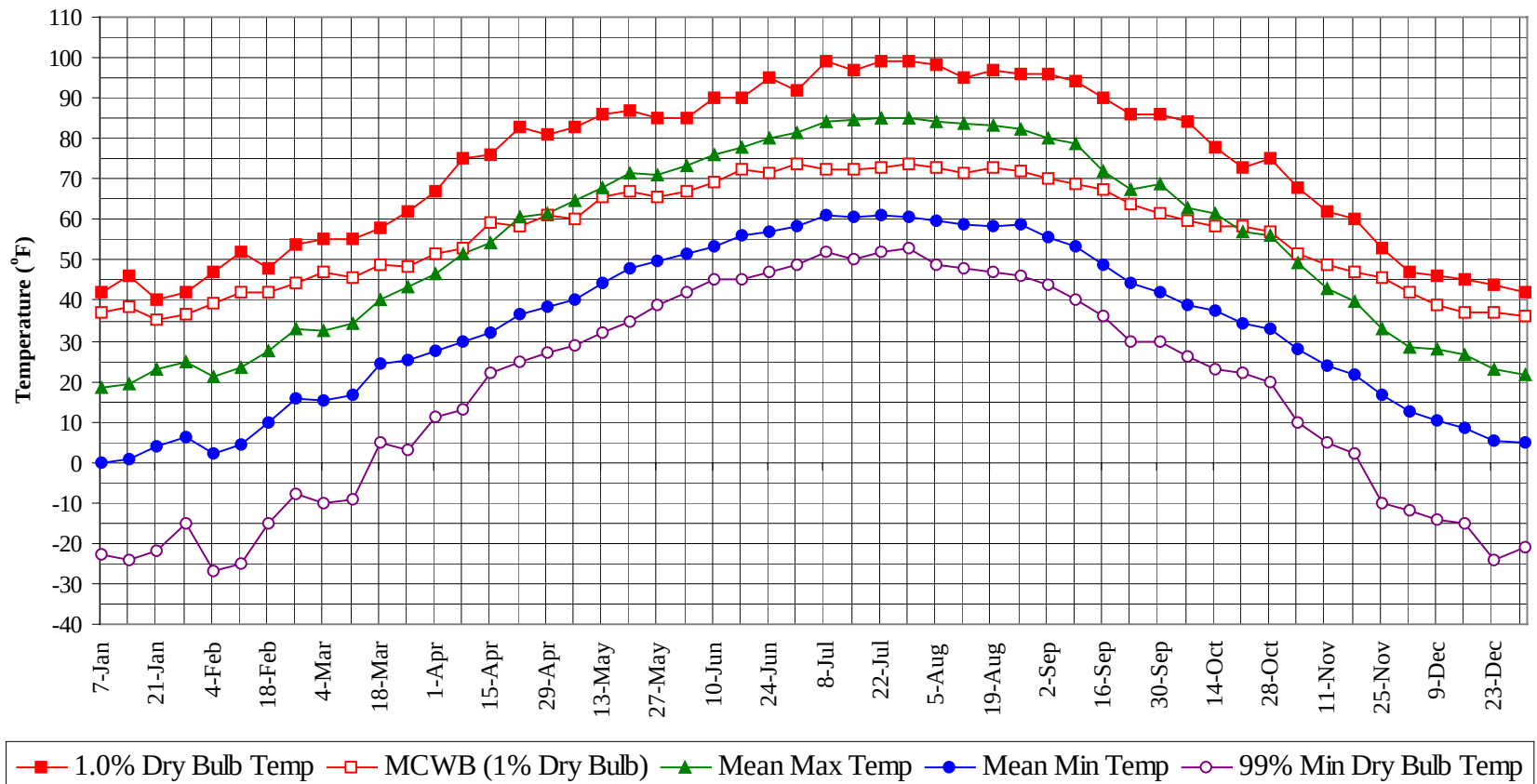
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

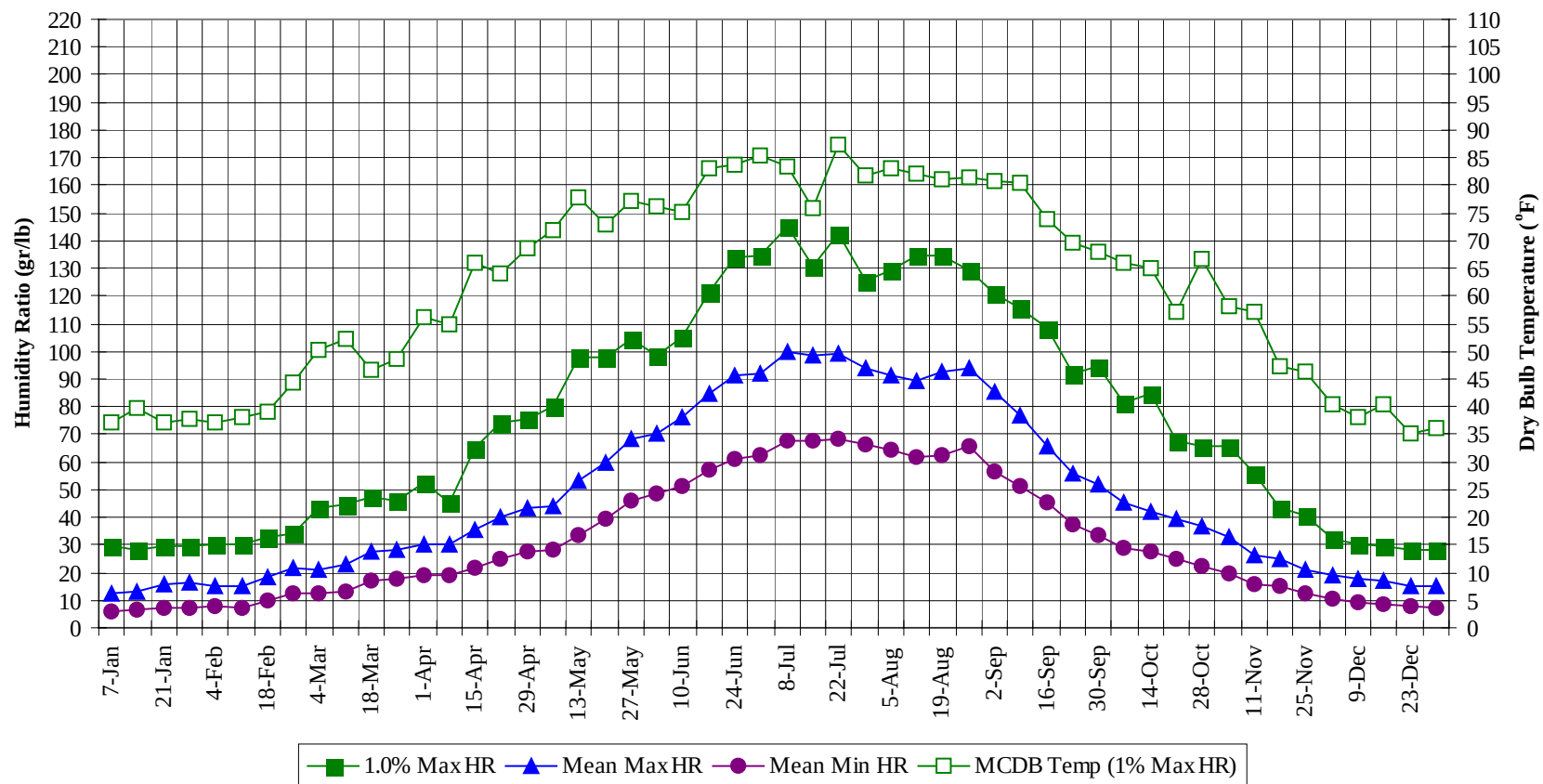
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		1	0	1	73.8
100 / 104		4	3	8	73.0
95 / 99		17	10	27	72.1
90 / 94	0	46	28	73	71.3
85 / 89	0	105	68	172	69.2
80 / 84	6	175	120	300	67.1
75 / 79	32	226	167	424	64.5
70 / 74	98	230	201	529	62.1
65 / 69	173	201	201	574	59.2
60 / 64	244	188	204	636	55.5
55 / 59	261	174	185	619	51.2
50 / 54	218	161	168	546	46.7
45 / 49	204	149	153	506	42.4
40 / 44	191	162	171	524	38.1
35 / 39	215	180	198	594	34.0
30 / 34	277	183	237	697	30.1
25 / 29	222	156	185	563	25.3
20 / 24	180	132	145	458	20.6
15 / 19	147	109	115	371	16.0
10 / 14	116	90	92	298	10.9
5 / 9	83	67	76	226	6.1
0 / 4	75	62	67	203	1.1
-5 / -1	47	37	40	124	-3.3
-10 / -6	46	33	40	119	-7.6
-15 / -11	35	20	27	82	-12.2
-20 / -16	25	10	15	51	-16.7
-25 / -21	14	4	5	24	-21.6
-30 / -26	7	1	1	9	-26.5
-35 / -31	2	0	0	2	-31.1
-40 / -36	0	0	0	0	-37.0
-45 / -41	0			0	-40.0
-50 / -46	0			0	

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Annual Summary of Temperatures

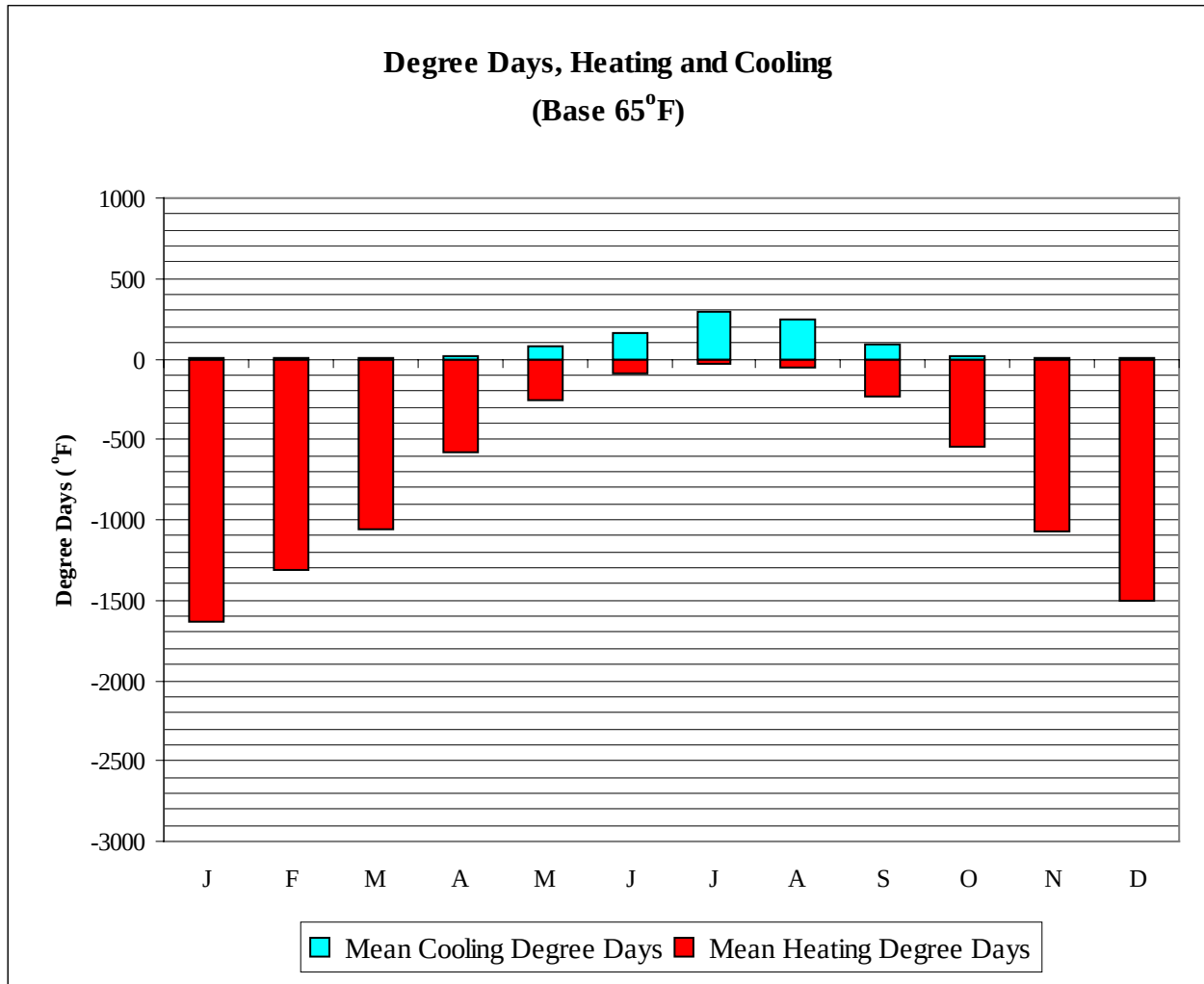


Long Term Humidity and Dry Bulb Temperature Summary

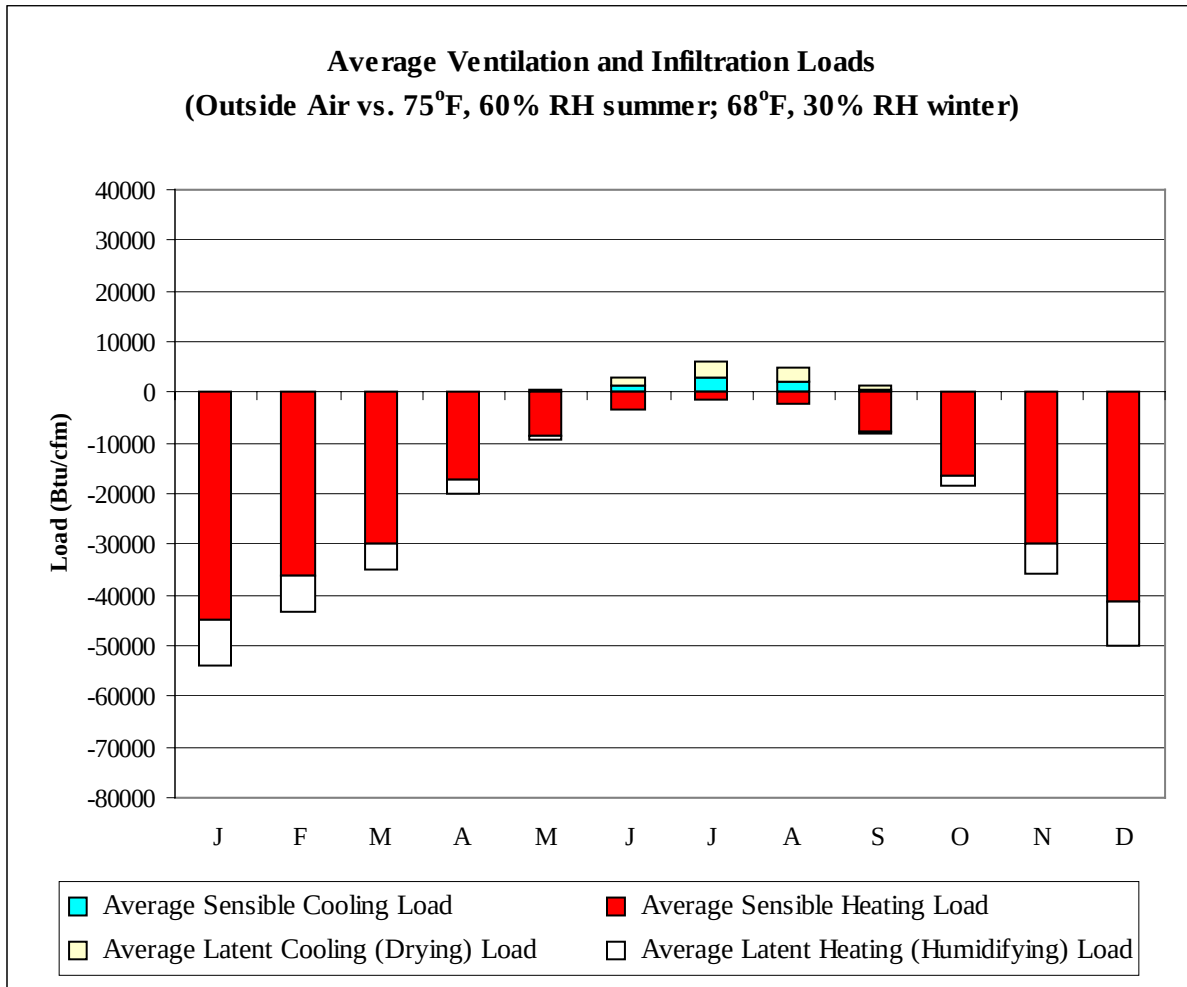


ABERDEEN**SD****WMO No. 726590****Long Term Dry Bulb Temperature and Humidity Summary**

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	42.0	37.0	18.2	-0.3	-23.0	29.4	37.3	12.6	6.1
14-Jan	46.0	38.6	19.2	0.6	-24.0	28.0	39.8	13.3	6.3
21-Jan	40.0	35.1	23.0	4.1	-22.0	29.4	37.2	15.9	7.4
28-Jan	42.0	36.4	25.0	6.2	-15.0	29.4	37.7	16.7	7.5
4-Feb	47.0	39.5	21.2	2.3	-27.0	30.1	37.1	14.9	7.7
11-Feb	52.0	42.2	23.4	4.2	-25.0	30.1	38.0	14.8	7.2
18-Feb	48.0	42.0	27.4	9.9	-15.0	32.9	39.1	18.7	9.8
25-Feb	54.0	44.5	32.8	15.6	-8.0	34.3	44.2	21.7	12.2
4-Mar	55.0	47.1	32.4	15.4	-10.0	43.4	50.4	20.9	12.3
11-Mar	55.0	45.8	34.5	16.6	-9.0	44.8	52.3	23.1	13.0
18-Mar	58.0	49.0	40.1	24.6	5.0	47.6	46.8	27.3	17.4
25-Mar	62.0	48.3	43.2	25.3	3.0	46.2	48.5	28.2	17.5
1-Apr	67.0	51.7	46.4	27.5	11.0	52.5	56.1	30.5	19.0
8-Apr	75.0	53.0	51.4	29.9	13.0	45.5	54.8	30.1	19.2
15-Apr	76.0	59.4	54.2	32.2	22.0	65.1	65.9	35.4	21.9
22-Apr	83.0	58.4	60.6	36.8	25.0	74.2	64.1	40.0	25.3
29-Apr	81.0	60.9	61.3	38.5	27.0	75.6	68.7	43.1	27.7
6-May	83.0	60.1	64.6	40.3	29.0	80.2	71.8	44.1	28.0
13-May	86.0	65.8	68.0	44.1	32.0	98.0	77.8	53.0	33.3
20-May	87.0	67.1	71.7	47.8	35.0	98.0	72.9	59.7	39.2
27-May	85.0	65.7	70.9	49.9	39.0	104.3	77.3	68.2	45.9
3-Jun	85.0	67.1	73.4	51.6	42.0	98.7	76.1	70.2	48.6
10-Jun	90.0	69.3	76.1	53.4	45.0	105.0	75.1	76.5	51.0
17-Jun	90.0	72.6	77.8	56.2	45.0	121.8	83.1	84.7	57.4
24-Jun	95.0	71.3	80.0	57.0	47.0	133.7	83.7	91.2	61.0
1-Jul	92.0	73.9	81.5	58.3	49.0	134.4	85.4	92.2	62.2
8-Jul	99.0	72.6	84.2	60.9	52.0	144.9	83.3	100.1	67.5
15-Jul	97.0	72.5	84.5	60.6	50.0	130.9	76.0	98.4	67.5
22-Jul	99.0	72.9	85.2	60.9	52.0	142.8	87.2	99.5	68.6
29-Jul	99.0	73.8	84.9	60.6	53.0	125.3	81.7	94.1	66.4
5-Aug	98.0	72.7	84.3	59.6	49.0	129.5	82.9	91.5	64.3
12-Aug	95.0	71.5	83.9	58.7	48.0	134.4	82.1	89.2	61.4
19-Aug	97.0	73.0	83.1	58.2	47.0	134.4	81.1	92.9	62.6
26-Aug	96.0	71.8	82.4	58.9	46.0	129.5	81.3	94.1	65.7
2-Sep	96.0	70.1	80.1	55.7	44.0	121.1	80.9	85.3	56.6
9-Sep	94.0	68.7	78.5	53.2	40.0	115.5	80.5	77.0	51.1
16-Sep	90.0	67.2	72.0	48.8	36.0	108.5	73.8	65.7	45.4
23-Sep	86.0	63.6	67.4	44.2	30.0	91.7	69.5	55.9	37.2
30-Sep	86.0	61.3	68.7	42.2	30.0	94.5	68.0	52.0	33.6
7-Oct	84.0	59.5	62.9	39.1	26.0	81.2	66.0	45.1	29.1
14-Oct	78.0	58.5	61.4	37.5	23.0	84.7	65.1	41.9	27.4
21-Oct	73.0	58.2	57.0	34.5	22.0	67.9	57.1	39.7	25.0
28-Oct	75.0	57.2	56.2	32.9	20.0	65.8	66.5	36.6	22.4
4-Nov	68.0	51.6	49.1	27.9	10.0	65.8	58.2	32.9	19.9
11-Nov	62.0	48.6	42.7	24.0	5.0	56.0	57.2	26.2	16.0
18-Nov	60.0	47.0	39.9	21.8	2.0	43.4	47.4	25.2	15.1
25-Nov	53.0	45.6	33.0	16.8	-10.0	40.6	46.3	21.0	12.3
2-Dec	47.0	42.0	28.6	12.7	-12.0	32.2	40.5	18.9	10.4
9-Dec	46.0	38.7	27.8	10.4	-14.0	30.1	38.2	17.8	9.5
16-Dec	45.0	37.2	26.4	8.7	-15.0	29.4	40.3	17.1	8.5
23-Dec	44.0	36.9	23.0	5.5	-24.0	28.0	35.2	15.3	7.6
31-Dec	42.0	36.2	21.5	5.0	-21.0	28.0	36.1	14.8	7.6



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1633
FEB	0	1309
MAR	1	1055
APR	18	586
MAY	74	259
JUN	167	86
JUL	298	35
AUG	249	57
SEP	91	232
OCT	14	545
NOV	1	1068
DEC	0	1505
ANN	912	8370



	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	-44734	0	-9358
FEB	0	-36116	0	-7242
MAR	1	-29747	0	-5298
APR	91	-17371	1	-2661
MAY	376	-8494	217	-675
JUN	1176	-3320	1739	-3
JUL	2750	-1515	3466	-1
AUG	2098	-2278	2745	-8
SEP	633	-7656	548	-334
OCT	55	-16313	9	-2026
NOV	0	-30019	0	-5696
DEC	0	-41413	0	-8630
ANN	7180	-238976	8725	-41932

Average Annual Solar Radiation – Nearest Available Site

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

City: HURON
 State: SD
 WBAN No: 14936
 Lat(N): 44.38
 Long(W): 98.22
 Elev(ft): 1289

Stn Type: Secondary

SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1

Overhang: 0.66

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	560	820	1180	1530	1850	2070	2110	1840	1390	960	600	460	1280
	Std Dev	37	68	107	151	128	147	97	101	136	76	40	29	43
	Minimum	470	650	960	1210	1530	1800	1930	1680	1100	800	470	420	1210
	Maximum	630	1000	1380	1790	2080	2360	2350	2060	1670	1110	650	520	1400
	Diffuse	280	420	580	680	780	780	710	620	510	390	300	250	520
Clear Day	Global	740	1100	1630	2160	2530	2670	2570	2250	1760	1210	800	630	1670
NORTH	Global	180	250	350	440	560	640	600	470	350	260	190	150	370
	Diffuse	180	250	350	430	500	530	510	440	350	260	190	150	340
Clear Day	Global	160	220	300	410	590	700	640	460	330	230	160	140	360
EAST	Global	400	560	750	930	1080	1160	1210	1090	880	650	410	330	790
	Diffuse	220	310	430	520	600	630	610	540	440	330	230	190	420
Clear Day	Global	620	850	1140	1380	1520	1550	1520	1400	1180	900	650	540	1110
SOUTH	Global	1050	1140	1150	1060	950	910	980	1120	1220	1230	1000	930	1060
	Diffuse	340	430	520	550	580	580	570	540	490	420	340	300	470
Clear Day	Global	1880	2010	1930	1570	1240	1080	1130	1390	1740	1920	1860	1770	1620
WEST	Global	410	560	750	930	1080	1200	1220	1130	900	650	430	350	800
	Diffuse	220	320	440	520	600	640	620	550	440	330	230	190	430
Clear Day	Global	620	850	1140	1380	1520	1550	1520	1400	1180	900	650	540	1110

Average Annual Solar Heat and Illumination – Nearest Available Site

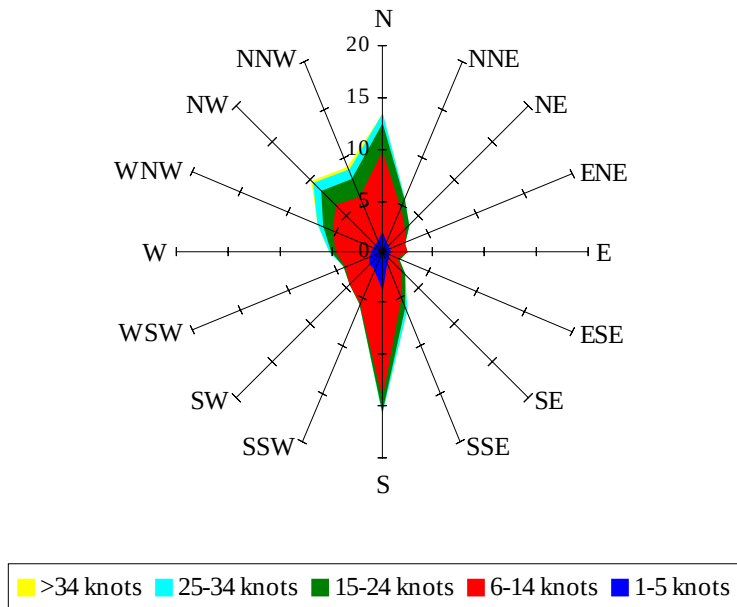
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

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	350	550	820	1100	1330	1510	1530	1330	980	650	380	280	900
NORTH	Unshaded	120	180	240	300	370	410	390	310	240	180	130	110	250
	Shaded	100	150	200	250	320	360	340	280	210	160	110	88	210
EAST	Unshaded	270	390	530	670	770	830	860	780	630	460	290	230	560
	Shaded	240	330	450	550	630	670	700	640	530	390	250	200	460
SOUTH	Unshaded	800	840	810	710	600	560	600	720	840	900	760	710	740
	Shaded	770	770	610	420	340	350	340	380	560	770	720	690	560
WEST	Unshaded	280	390	530	670	770	860	870	810	640	460	300	240	570
	Shaded	250	340	450	550	630	700	710	660	540	390	260	210	470

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	60	75	65	34	39	75	97	97	76
	M.Cloudy	17	40	51	42	23	25	52	68	70	55
NORTH	M.Clear	8	12	14	13	9	19	15	16	16	15
	M.Cloudy	7	14	17	15	9	13	16	18	18	17
EAST	M.Clear	68	64	19	13	9	76	78	43	16	15
	M.Cloudy	23	33	19	15	9	34	47	33	18	17
SOUTH	M.Clear	31	71	88	76	39	10	31	52	52	32
	M.Cloudy	13	35	46	37	18	10	24	38	39	26
WEST	M.Clear	8	12	14	57	72	10	15	16	40	75
	M.Cloudy	7	14	17	31	29	10	16	18	32	50
M.Clear	(% hrs)	30	28	28	28	29	41	41	41	41	41
		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	17	55	78	77	54	4	28	39	28	3
	M.Cloudy	11	34	48	50	34	3	18	25	18	3
NORTH	M.Clear	6	12	14	14	12	2	8	9	8	2
	M.Cloudy	5	12	16	16	12	2	8	10	8	2
EAST	M.Clear	54	75	40	14	12	17	41	10	8	2
	M.Cloudy	18	34	26	16	12	4	17	10	8	2
SOUTH	M.Clear	13	53	78	77	51	14	69	87	69	12
	M.Cloudy	7	27	40	43	27	4	25	35	26	4
WEST	M.Clear	6	12	14	41	74	2	8	10	42	15
	M.Cloudy	5	12	16	27	36	2	8	10	18	4
M.Clear	(% hrs)	47	47	47	46	47	31	30	30	31	36

Wind Summary - December, January, and February

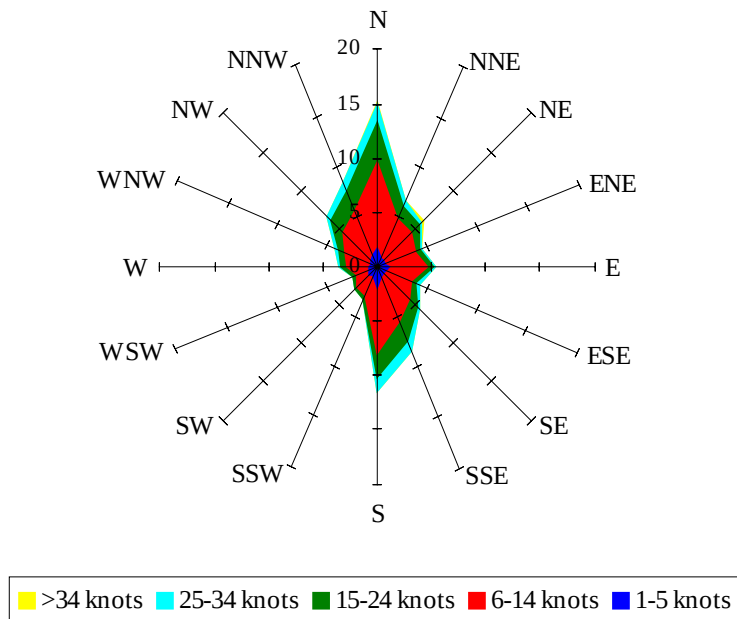
Labels of Percent Frequency on North Axis



Percent Calm = 3.41

Wind Summary - March, April, and May

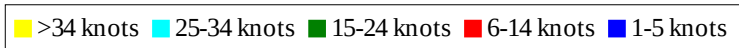
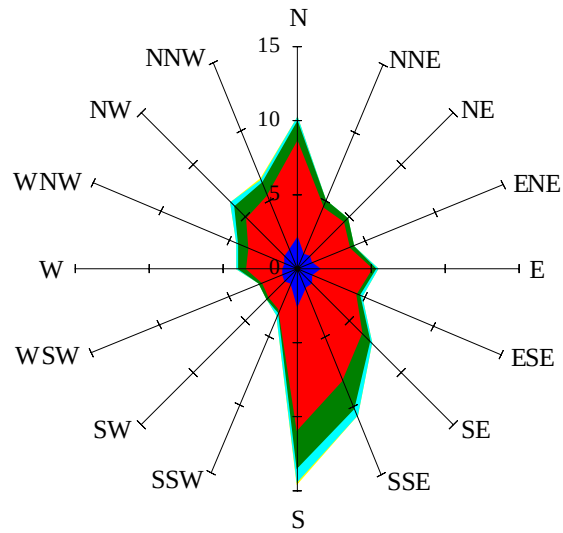
Labels of Percent Frequency on North Axis



Percent Calm = 2.26

Wind Summary - June, July, and August

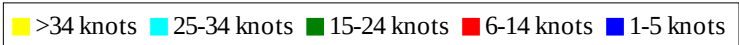
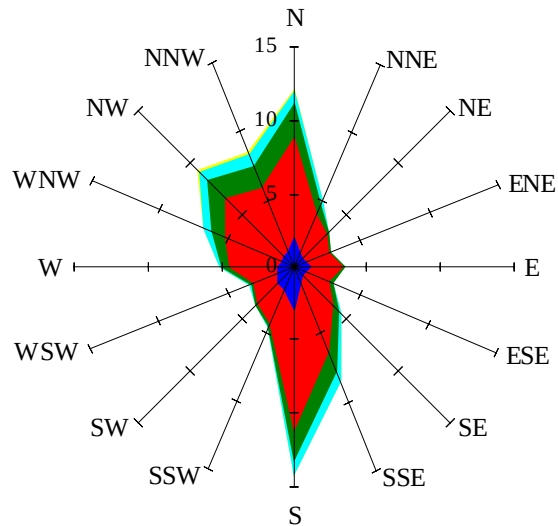
Labels of Percent Frequency on North Axis



Percent Calm = 3.49

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 3.36