

BETHEL AK

Latitude = 60.78 N

Longitude = 161.80 W

Period of Record = 1973 to 1996

WMO No. 702190

Elevation = 151 feet

Average Pressure = 29.57 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	78	61	53	11.9	N
0.4% Occurrence	71	58	51	11.5	N
1.0% Occurrence	68	57	51	10.8	N
2.0% Occurrence	65	55	50	10.9	E
Mean Daily Range	13	-	-	-	-
97.5% Occurrence	-17	-17	1	12.4	NNE
99.0% Occurrence	-23	-23	1	11.5	NNE
99.6% Occurrence	-28	-28	1	10.3	NNE
Median of Extreme Lows	-31	-31	1	12.1	NNE
	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	63	73	69	10.8	S
0.4% Occurrence	60	68	62	11.0	N
1.0% Occurrence	58	65	60	10.6	S
2.0% Occurrence	57	63	59	10.6	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	78	65	0.52	9.9	SSE
0.4% Occurrence	68	61	0.45	10.1	S
1.0% Occurrence	64	59	0.44	10.6	S
2.0% Occurrence	61	58	0.41	10.8	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	2	0	0

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
3	0.7	120	0.0 + 0.0
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 (#)
Permafrost	Permafrost	N/A	66

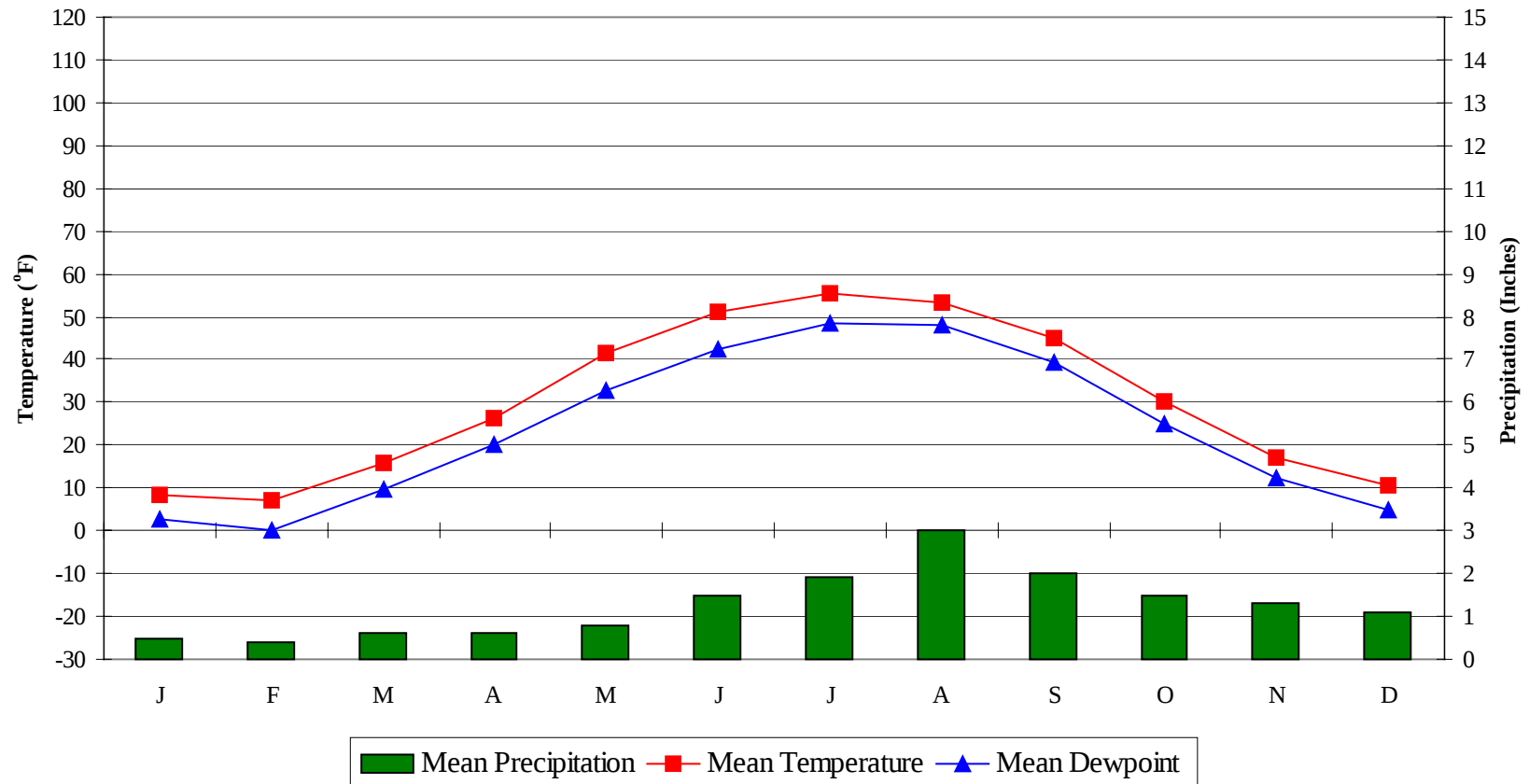
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

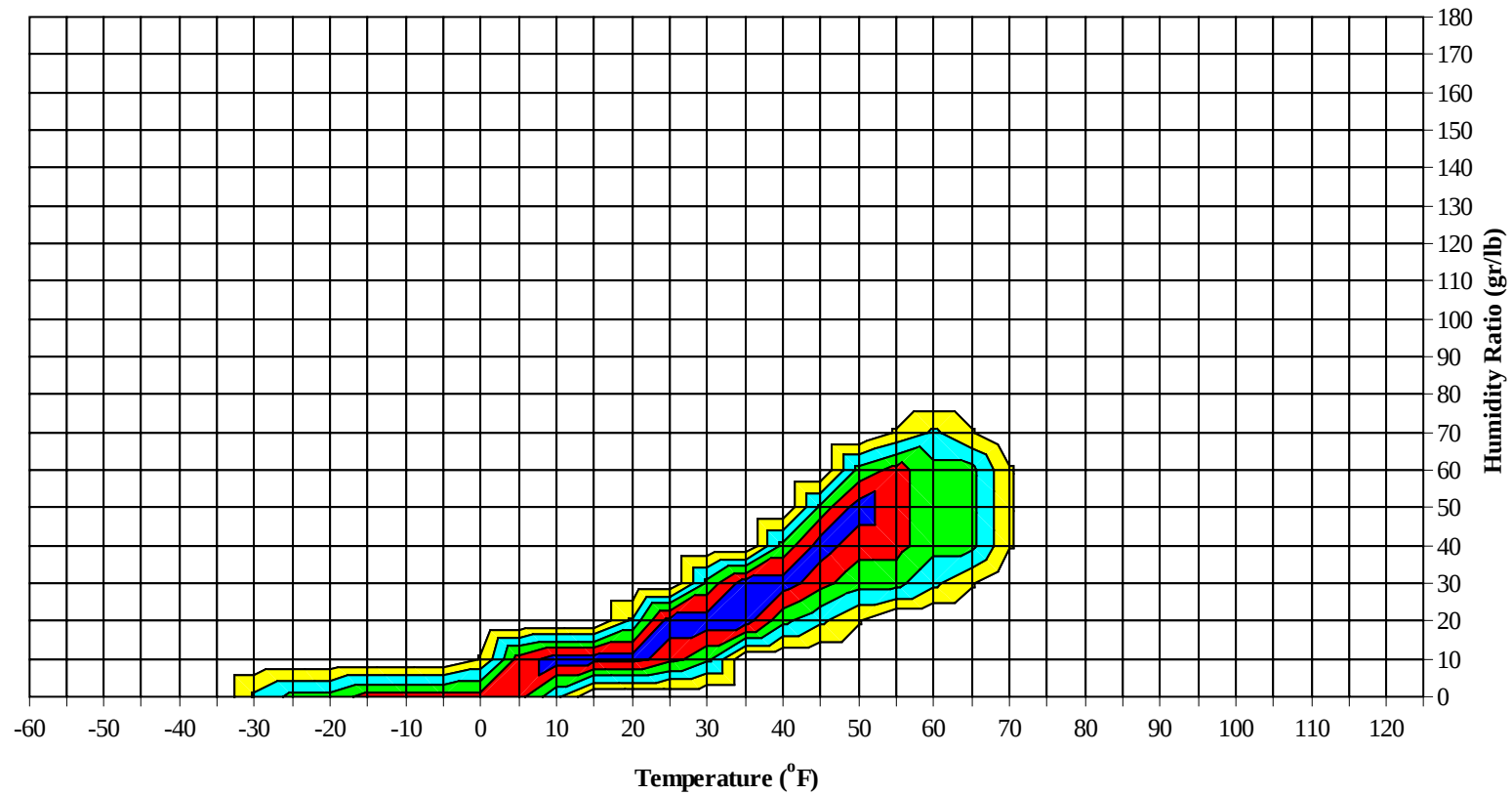


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Long Term Psychrometric Summary



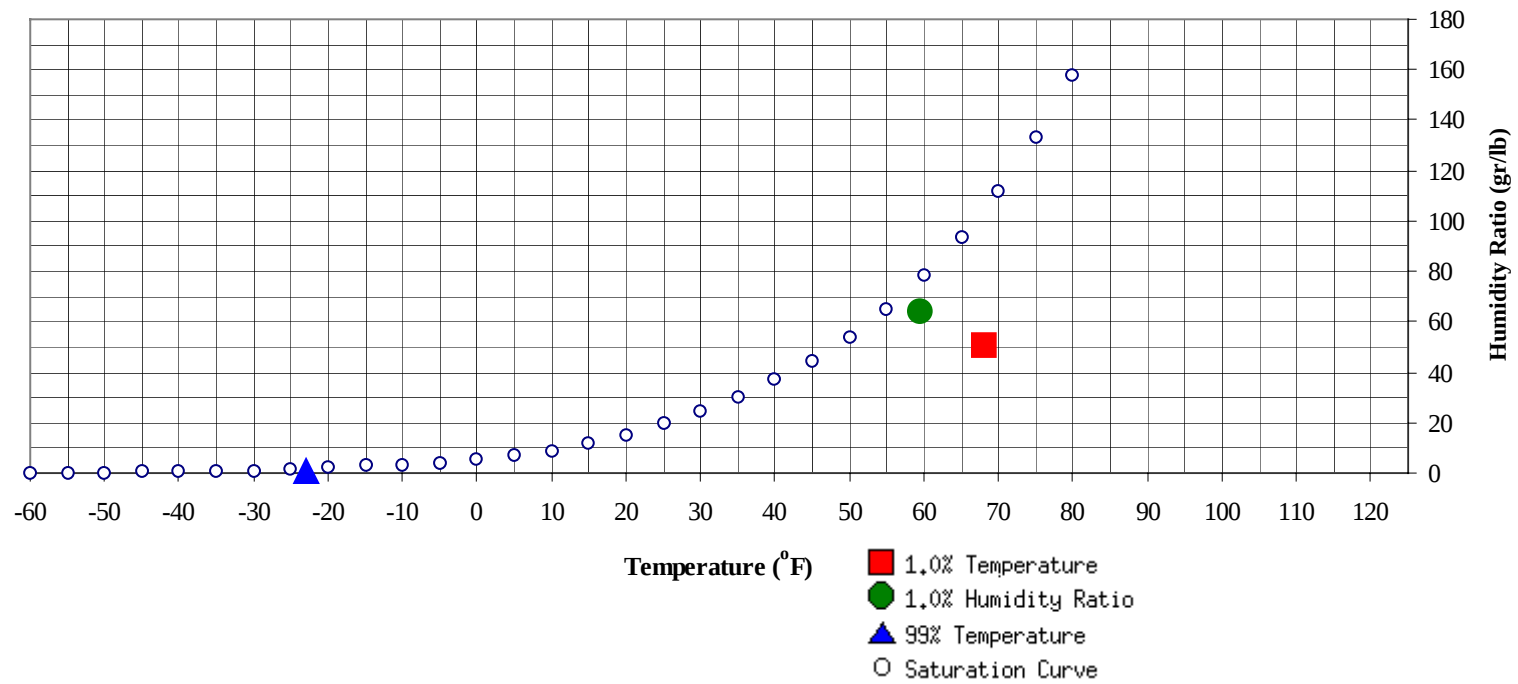
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	-23	0.9	-5.4		64.4	59.5	56.7	54.9	24.3

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	68	50.4	56.7	24.2

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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		
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59															
50 / 54															
45 / 49												0	0	0	38.3
40 / 44	1	1	1	3	36.8	1	1	1	3	36.2	0	4	2	6	36.2
35 / 39	12	13	11	36	33.7	10	15	14	39	34.4	7	25	23	55	33.6
30 / 34	24	27	28	79	30.7	20	22	23	65	30.7	35	42	45	121	30.8
25 / 29	23	22	20	65	25.8	16	17	17	50	25.8	34	28	28	89	25.9
20 / 24	22	24	23	69	20.9	19	17	17	53	21.0	28	25	27	79	20.9
15 / 19	22	19	21	62	16.0	16	17	14	47	16.1	21	23	24	68	15.9
10 / 14	23	25	23	71	11.1	16	15	18	49	10.8	21	21	22	64	10.9
5 / 9	23	20	21	64	6.4	15	18	18	51	5.9	21	21	22	64	5.9
0 / 4	20	20	18	58	1.3	20	21	20	61	0.9	23	20	20	63	1.2
-5 / -1	13	14	15	42	-3.1	17	16	15	48	-3.4	19	14	12	45	-3.2
-10 / -6	15	16	17	48	-7.4	18	17	20	55	-7.8	17	12	9	38	-7.5
-15 / -11	12	13	12	37	-12.5	20	19	18	57	-12.6	10	8	7	25	-12.1
-20 / -16	15	14	13	42	-17.3	18	15	13	46	-17.0	8	4	3	15	-16.9
-25 / -21	11	11	11	33	-21.9	11	9	7	27	-21.9	4	2	2	8	-21.7
-30 / -26	7	7	6	20	-26.7	6	5	4	15	-26.7	2	1	0	3	-26.6
-35 / -31	5	4	4	13	-31.7	3	1	1	5	-31.5	0	0	0	0	-31.5
-40 / -36	1	1	1	3	-35.0	0	0	0	0	-35.0	0	0		0	-35.3
-45 / -41	1	0	0	1											
-50 / -46	0	0	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.

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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		
80 / 84												0	0	0	57.8
75 / 79							0	0	0	58.2	0	1	1	2	59.6
70 / 74							1	2	3	53.9	0	5	6	11	56.5
65 / 69							4	3	7	52.2	0	16	15	31	54.4
60 / 64						0	9	7	16	49.7	1	35	31	67	52.0
55 / 59		0	0	0	45.3	1	24	19	44	47.0	8	54	52	114	50.2
50 / 54		3	2	5	42.7	3	43	38	85	44.6	43	58	61	161	48.0
45 / 49		11	5	16	40.1	16	50	49	115	42.1	89	46	48	183	44.8
40 / 44	0	25	20	46	37.2	53	46	53	152	39.1	70	23	23	117	41.0
35 / 39	18	48	48	114	34.2	71	37	42	149	35.2	25	3	2	30	36.6
30 / 34	62	47	62	172	30.6	66	22	26	114	31.0	4	0	0	4	31.8
25 / 29	50	31	32	113	25.7	29	8	7	44	26.2					
20 / 24	28	20	19	67	20.8	6	3	1	10	21.1					
15 / 19	20	16	15	51	15.8	2	1	1	4	15.6					
10 / 14	18	14	14	46	10.8	2	0	0	2	11.2					
5 / 9	15	12	10	37	6.0	0			0	8.1					
0 / 4	13	7	7	27	1.3										
-5 / -1	8	4	3	15	-3.2										
-10 / -6	7	2	1	10	-7.1										
-15 / -11	2	1	0	3	-11.8										
-20 / -16	0	0		0	-17.1										
-25 / -21	0			0	-20.0										
-30 / -26															
-35 / -31															
-40 / -36															
-45 / -41															
-50 / -46															

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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		
80 / 84		0	1	1	63.0		0	0	0	64.5					
75 / 79		3	4	7	60.6		1	1	2	61.5					
70 / 74		12	10	22	59.0		5	4	9	59.9		0	0	0	56.8
65 / 69	0	29	29	58	57.0	0	14	12	26	57.3		1	1	2	55.0
60 / 64	3	48	44	94	55.1	2	34	30	66	55.4		8	5	13	53.1
55 / 59	37	70	71	178	53.1	23	68	70	161	53.1	2	24	17	43	50.7
50 / 54	109	68	70	247	50.2	99	96	94	289	50.1	18	61	55	134	48.2
45 / 49	84	18	17	120	46.6	94	28	31	153	46.4	66	68	74	208	44.8
40 / 44	14	1	1	16	42.5	22	3	5	30	41.4	67	42	46	155	40.4
35 / 39	1			1	38.1	7	0	0	7	36.8	48	24	28	100	35.4
30 / 34						1		0	1	32.1	28	9	12	49	31.0
25 / 29						0			0	27.7	8	2	2	12	26.3
20 / 24											3	1	0	4	21.1
15 / 19															
10 / 14															
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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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		
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59			0	0	47.0										
50 / 54		1	1	2	44.6										
45 / 49	3	16	10	29	43.2	1	1	0	2	41.4	0			0	
40 / 44	17	32	28	77	39.8	2	4	3	9	37.5	1	2	1	4	37.0
35 / 39	39	50	48	137	35.2	19	21	23	63	34.8	13	15	12	40	33.9
30 / 34	64	59	62	185	30.5	29	31	29	89	31.2	30	31	34	95	31.1
25 / 29	45	39	38	122	25.6	24	27	26	77	25.8	19	20	19	58	26.1
20 / 24	35	26	29	90	20.7	31	27	27	85	20.9	19	20	16	55	21.1
15 / 19	24	15	18	57	16.1	31	32	36	99	15.9	19	19	19	57	16.1
10 / 14	12	7	7	26	11.1	32	33	33	98	11.0	25	25	24	74	11.0
5 / 9	5	3	4	12	6.2	23	20	22	64	6.2	25	25	27	76	6.2
0 / 4	3	2	2	7	1.0	17	19	16	52	1.4	21	24	25	69	1.1
-5 / -1	1	0	0	1	-2.6	15	10	12	37	-3.1	18	18	19	55	-3.2
-10 / -6						10	8	8	26	-7.3	20	19	16	55	-7.6
-15 / -11						4	4	4	12	-12.1	18	15	16	49	-12.3
-20 / -16						2	2	2	6	-17.1	13	11	10	34	-17.1
-25 / -21						1	1	0	2	-21.1	7	5	7	19	-21.8
-30 / -26											2	1	1	4	-26.7
-35 / -31											1	0	0	1	-31.2
-40 / -36												0		0	-35.0
-45 / -41															
-50 / -46															

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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		
80 / 84		1	1	2	62.3
75 / 79	0	5	6	11	60.6
70 / 74	0	23	22	45	58.2
65 / 69	0	63	60	123	56.1
60 / 64	6	132	117	255	53.9
55 / 59	70	236	230	536	51.8
50 / 54	271	329	321	922	48.9
45 / 49	352	237	235	825	44.8
40 / 44	247	185	186	617	39.8
35 / 39	268	251	252	771	34.8
30 / 34	363	290	322	974	30.8
25 / 29	248	194	190	632	25.8
20 / 24	189	161	161	511	20.9
15 / 19	154	142	150	446	16.0
10 / 14	149	139	141	429	11.0
5 / 9	127	118	125	370	6.1
0 / 4	116	111	108	335	1.2
-5 / -1	90	76	77	244	-3.2
-10 / -6	86	73	71	231	-7.5
-15 / -11	66	60	58	183	-12.4
-20 / -16	55	46	42	142	-17.1
-25 / -21	34	28	28	90	-21.8
-30 / -26	17	14	11	42	-26.7
-35 / -31	9	5	5	19	-31.6
-40 / -36	2	1	1	4	-35.1
-45 / -41	1	0	0	1	
-50 / -46	0	0	0	0	

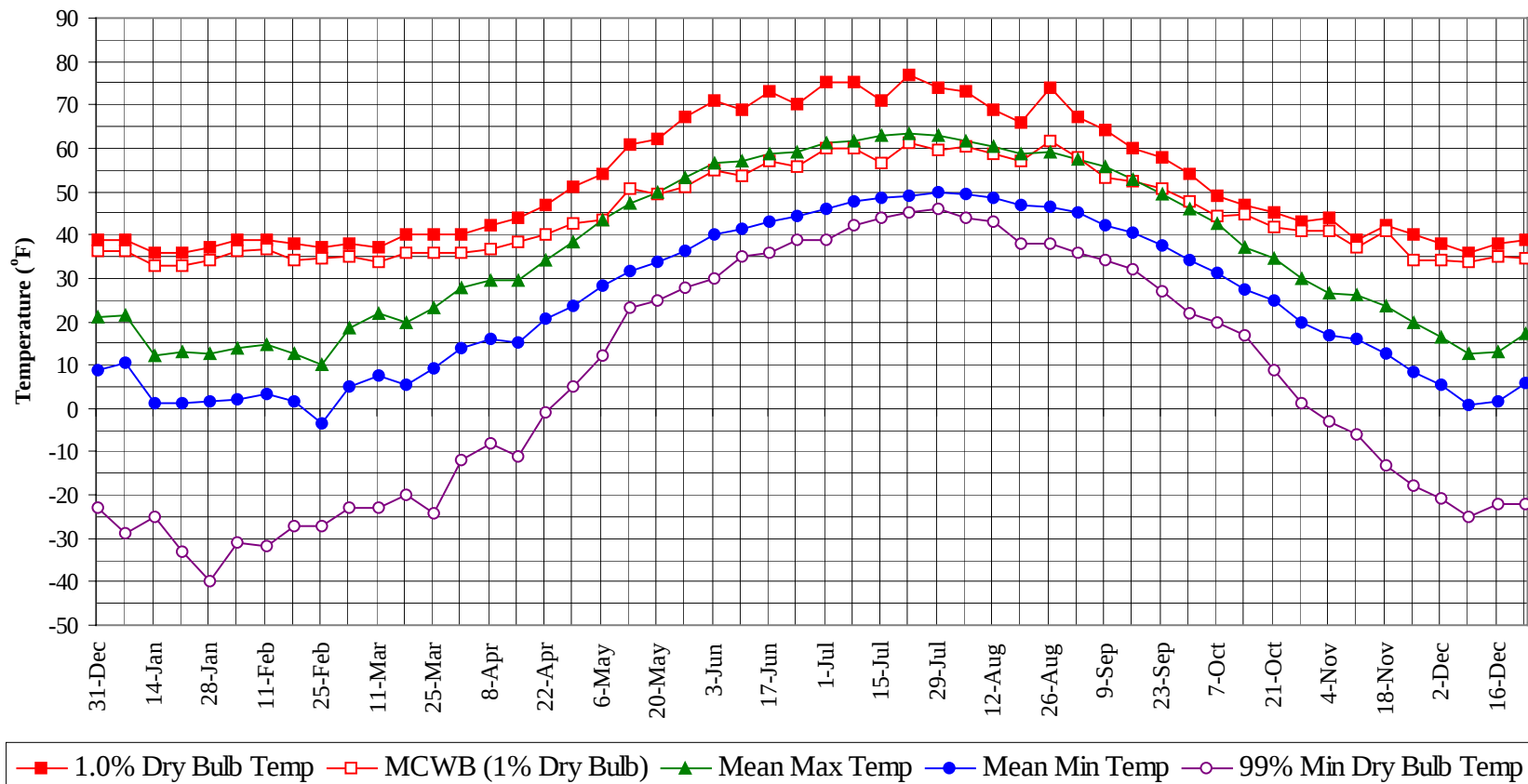
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

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Annual Summary of Temperatures

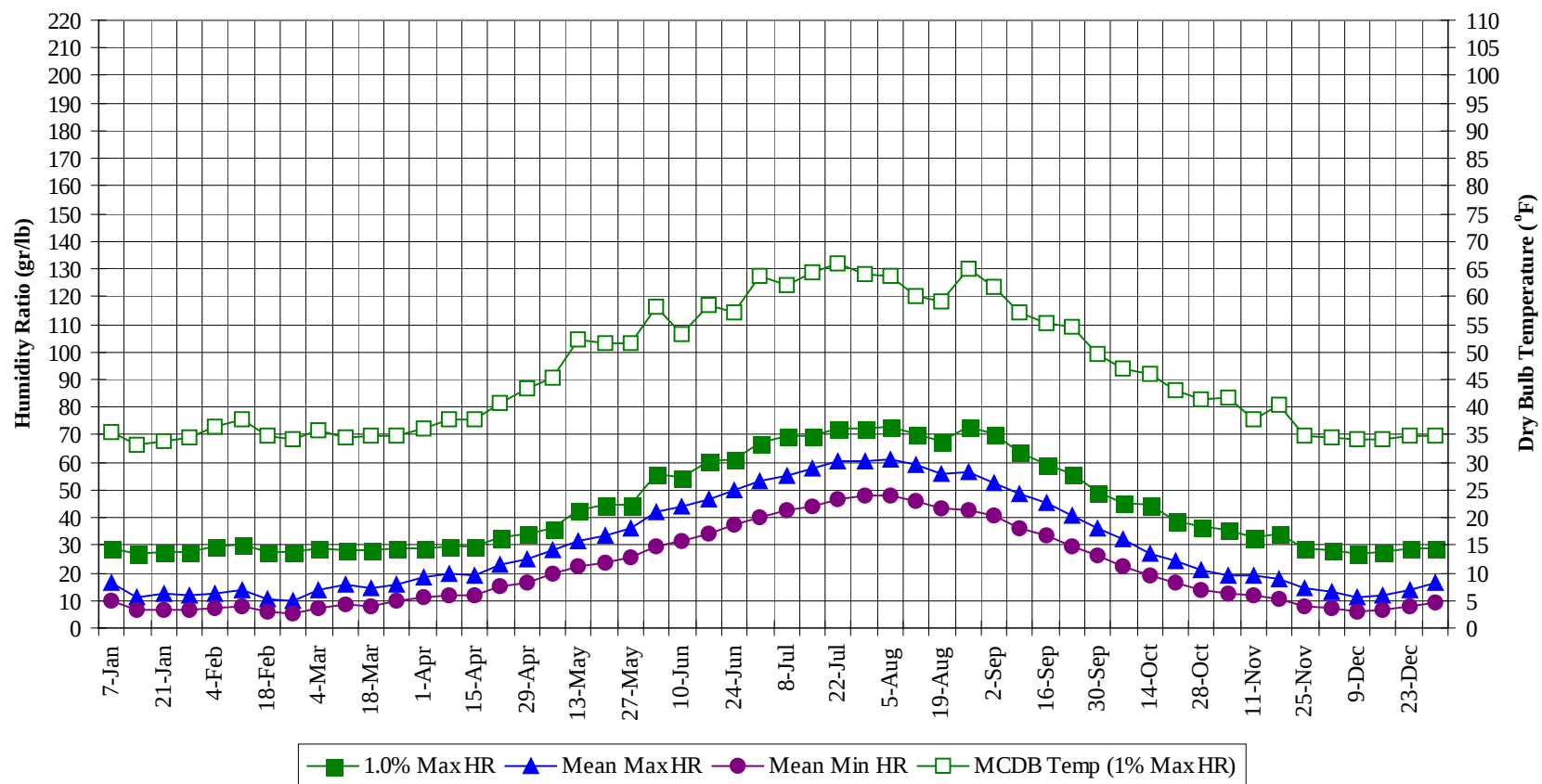


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Long Term Humidity and Dry Bulb Temperature Summary



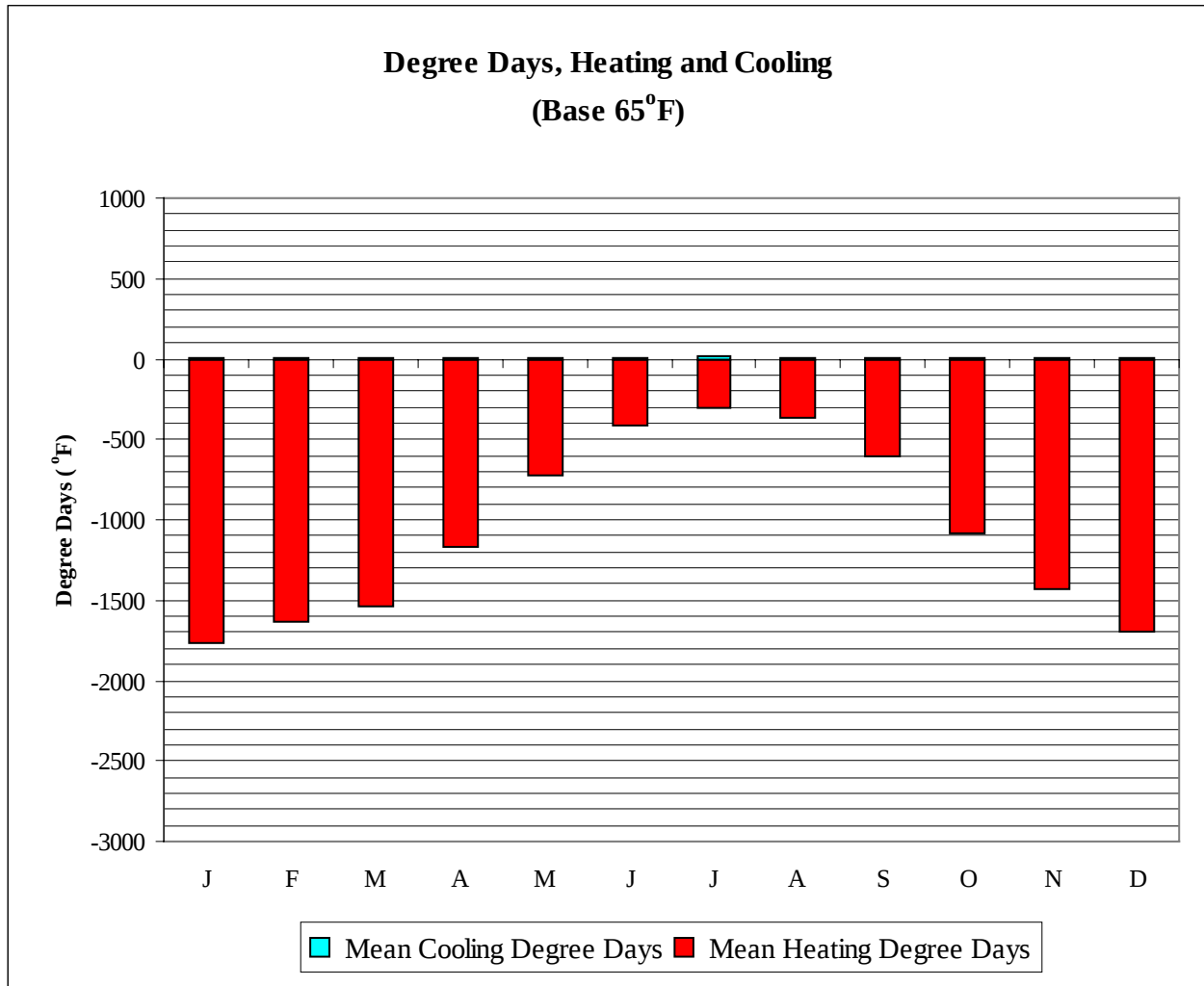
BETHEL**AK****WMO No. 702190****Long Term Dry Bulb Temperature and Humidity Summary**

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	39.0	36.2	21.5	10.4	-29.0	28.7	35.6	16.7	9.8
14-Jan	36.0	33.0	12.1	1.2	-25.0	26.6	33.3	11.5	6.3
21-Jan	36.0	32.9	13.0	1.0	-33.0	27.3	33.9	12.3	6.3
28-Jan	37.0	34.2	12.6	1.4	-40.0	27.3	34.6	12.1	6.6
4-Feb	39.0	36.1	14.0	2.0	-31.0	29.4	36.6	12.7	7.1
11-Feb	39.0	36.9	14.8	3.3	-32.0	30.1	37.7	13.5	8.0
18-Feb	38.0	34.3	12.6	1.6	-27.0	27.3	34.7	10.8	6.2
25-Feb	37.0	34.5	9.9	-3.6	-27.0	27.3	34.1	9.9	5.1
4-Mar	38.0	35.0	18.6	4.9	-23.0	28.7	35.7	13.9	7.5
11-Mar	37.0	33.6	22.1	7.7	-23.0	28.0	34.6	16.1	8.5
18-Mar	40.0	35.7	19.8	5.3	-20.0	28.0	34.9	14.1	7.6
25-Mar	40.0	35.7	23.2	9.1	-24.0	28.7	34.8	16.1	9.8
1-Apr	40.0	35.7	27.9	13.9	-12.0	28.7	36.2	18.7	11.3
8-Apr	42.0	36.7	29.5	15.9	-8.0	29.4	37.9	19.5	12.1
15-Apr	44.0	38.3	29.7	14.9	-11.0	29.4	37.8	18.9	11.7
22-Apr	47.0	39.9	34.2	20.5	-1.0	32.9	40.7	22.9	14.8
29-Apr	51.0	42.7	38.6	23.4	5.0	34.3	43.4	25.3	16.4
6-May	54.0	43.5	43.3	28.3	12.0	36.4	45.2	28.3	19.8
13-May	61.0	50.5	47.2	31.5	23.0	42.7	52.2	31.5	22.4
20-May	62.0	49.4	49.6	33.7	25.0	44.8	51.7	33.7	23.9
27-May	67.0	50.9	53.3	36.4	28.0	44.8	51.5	35.9	25.6
3-Jun	71.0	54.9	56.8	40.0	30.0	56.0	58.1	41.9	29.6
10-Jun	69.0	53.5	57.0	41.2	35.0	54.6	53.3	43.9	31.3
17-Jun	73.0	56.8	58.6	43.1	36.0	60.2	58.5	46.9	33.9
24-Jun	70.0	55.6	59.3	44.5	39.0	60.9	57.2	49.9	37.3
1-Jul	75.0	60.2	61.2	45.9	39.0	67.2	63.7	53.0	39.7
8-Jul	75.0	60.1	61.5	47.6	42.0	69.3	62.2	55.3	42.6
15-Jul	71.0	56.8	63.1	48.4	44.0	69.3	64.4	58.0	43.7
22-Jul	77.0	61.2	63.4	49.2	45.0	72.1	66.0	60.1	46.9
29-Jul	74.0	59.7	62.8	49.9	46.0	72.1	63.9	60.4	47.6
5-Aug	73.0	60.6	61.7	49.4	44.0	72.8	63.7	60.8	47.8
12-Aug	69.0	58.5	60.2	48.6	43.0	70.0	60.1	59.4	46.2
19-Aug	66.0	56.9	58.5	46.7	38.0	67.9	59.0	55.7	43.4
26-Aug	74.0	61.5	59.2	46.6	38.0	72.8	65.2	56.2	42.7
2-Sep	67.0	57.8	57.6	45.3	36.0	70.0	61.6	52.7	40.9
9-Sep	64.0	53.3	55.6	42.2	34.0	63.7	57.3	48.8	36.0
16-Sep	60.0	52.5	52.9	40.7	32.0	58.8	55.1	45.0	33.7
23-Sep	58.0	50.6	49.3	37.5	27.0	56.0	54.5	40.5	29.4
30-Sep	54.0	47.5	46.2	34.4	22.0	49.0	49.5	36.2	26.3
7-Oct	49.0	44.2	42.5	31.1	20.0	45.5	46.9	32.1	22.6
14-Oct	47.0	44.8	37.2	27.2	17.0	44.8	45.8	27.2	18.8
21-Oct	45.0	41.7	34.5	24.7	9.0	38.5	43.1	24.2	16.6
28-Oct	43.0	41.0	30.0	19.8	1.0	37.1	41.5	21.3	13.8
4-Nov	44.0	40.8	26.7	16.8	-3.0	35.7	41.6	18.8	12.5
11-Nov	39.0	37.2	26.1	16.0	-6.0	32.9	37.7	19.2	11.6
18-Nov	42.0	41.0	23.5	12.4	-13.0	34.3	40.5	17.6	10.5
25-Nov	40.0	34.2	19.7	8.3	-18.0	28.7	35.0	14.7	8.0
2-Dec	38.0	34.2	16.4	5.5	-21.0	28.0	34.4	13.0	7.5
9-Dec	36.0	33.8	12.6	0.9	-25.0	26.6	34.1	11.3	6.0
16-Dec	38.0	35.1	13.2	1.8	-22.0	27.3	34.3	11.8	6.8
23-Dec	39.0	34.5	17.2	5.8	-22.0	28.7	34.9	14.0	8.1
31-Dec	39.0	36.4	21.0	8.9	-23.0	28.7	34.7	16.5	9.1

BETHEL

AK

WMO No. 702190



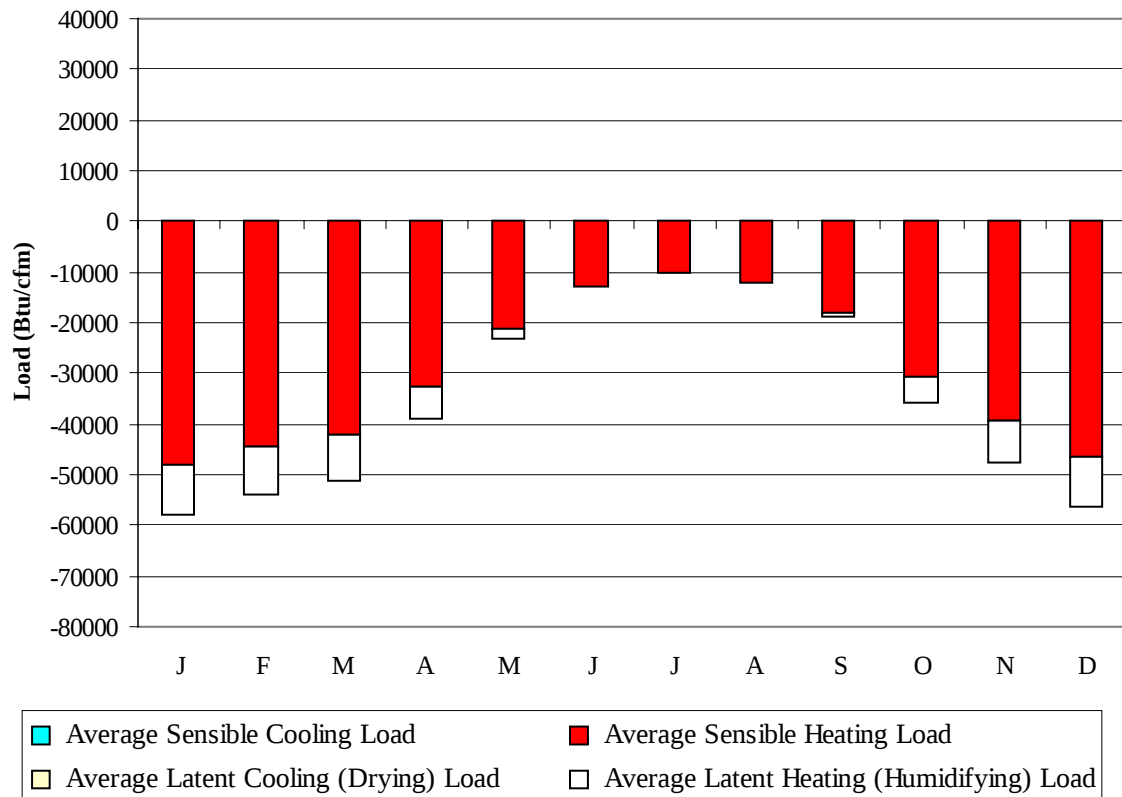
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	1762
FEB	0	1632
MAR	0	1536
APR	0	1171
MAY	1	727
JUN	6	412
JUL	13	309
AUG	5	371
SEP	0	603
OCT	0	1087
NOV	0	1431
DEC	0	1697
ANN	26	12738

BETHEL

AK

WMO No. 702190

Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	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	-48084	0	-10002
FEB	0	-44504	0	-9429
MAR	0	-42229	0	-8869
APR	0	-32685	0	-6240
MAY	0	-21230	0	-2047
JUN	5	-12850	0	-155
JUL	17	-10237	1	-1
AUG	6	-11956	1	-35
SEP	0	-17963	0	-818
OCT	0	-30587	0	-5064
NOV	0	-39423	0	-8355
DEC	0	-46408	0	-9939
ANN	28	-358156	2	-60954

Average Annual Solar Radiation – Nearest Available Site

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

City: BETHEL
 State: AK
 WBAN No: 26615
 Lat(N): 60.78
 Long(W): 161.8
 Elev(ft): 151

Stn Type: Secondary
 SHADING GEOMETRY IN DIMENSIONLESS UNITS
 Window: 1
 Overhang: 0.152
 Vert Gap: 0.2

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	110	350	780	1240	1430	1510	1350	1010	710	370	150	63	760
	Std Dev	14	39	81	136	158	157	114	106	92	30	15	7	34
	Minimum	86	290	620	970	1160	1220	1160	830	560	330	130	51	680
	Maximum	140	420	950	1500	1680	1840	1630	1210	850	440	180	76	820
	Diffuse	71	180	390	630	780	890	870	690	440	240	100	43	450
Clear Day	Global	140	420	980	1720	2300	2580	2420	1870	1180	560	180	76	1200
NORTH	Global	43	110	240	400	540	630	560	400	260	140	59	26	280
	Diffuse	43	110	240	380	470	530	500	380	250	140	59	26	260
Clear Day	Global	41	98	200	370	680	920	790	450	230	120	48	25	330
EAST	Global	110	320	620	890	920	910	810	630	500	290	140	68	520
	Diffuse	56	150	320	480	560	610	570	440	310	170	75	33	320
Clear Day	Global	210	490	940	1420	1710	1840	1750	1480	1060	590	250	130	990
SOUTH	Global	450	910	1190	1190	1010	940	870	770	780	630	450	320	790
	Diffuse	130	250	420	550	580	620	590	490	380	250	150	90	380
Clear Day	Global	980	1580	2000	1970	1760	1650	1670	1810	1910	1680	1100	740	1570
WEST	Global	110	330	640	890	960	980	870	660	500	290	130	70	540
	Diffuse	56	150	320	490	570	620	580	460	320	180	76	34	320
Clear Day	Global	210	490	940	1420	1710	1840	1750	1480	1060	590	250	130	990

Average Annual Solar Heat and Illumination – Nearest Available Site

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

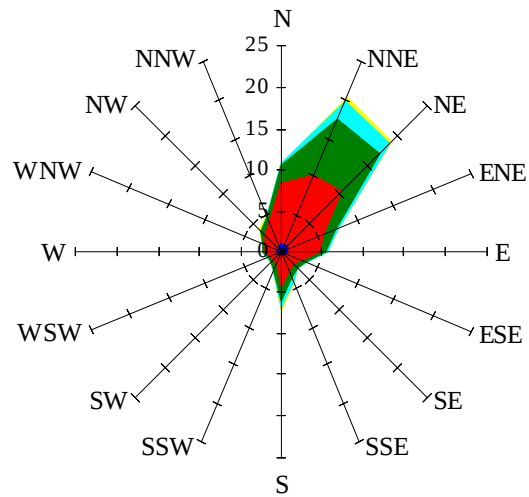
AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	57	190	500	850	1000	1060	950	700	480	230	83	32	510
NORTH	Unshaded	29	79	170	270	360	420	380	270	180	97	41	18	190
	Shaded	29	77	160	270	350	410	370	260	170	94	39	18	190
EAST	Unshaded	72	220	440	630	650	640	580	450	360	200	90	42	370
	Shaded	71	220	430	620	640	630	570	440	350	200	89	41	360
SOUTH	Unshaded	350	690	880	840	700	640	590	540	560	470	340	250	570
	Shaded	350	690	870	830	680	620	580	530	550	470	340	250	560
WEST	Unshaded	71	220	450	640	690	700	620	470	360	200	89	43	380
	Shaded	70	220	440	630	680	690	610	460	350	200	88	42	370

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	3	25	43	47	34	25	51	72	80	75
	M.Cloudy	2	17	30	32	24	14	29	41	50	46
NORTH	M.Clear	1	7	10	10	9	23	11	14	15	14
	M.Cloudy	1	7	11	12	10	9	11	15	17	16
EAST	M.Clear	15	60	42	10	9	63	80	62	21	14
	M.Cloudy	4	22	22	12	10	17	29	30	19	16
SOUTH	M.Clear	3	45	83	91	64	7	24	58	74	65
	M.Cloudy	2	18	35	38	26	6	15	28	39	35
WEST	M.Clear	1	7	10	24	58	7	11	14	15	52
	M.Cloudy	1	7	11	17	24	6	11	15	17	30
M.Clear	(% hrs)	34	34	35	36	38	12	13	13	11	12

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	1	21	42	51	45	0	0	6	7	0
	M.Cloudy	1	12	24	30	27	0	0	4	5	0
NORTH	M.Clear	2	7	10	11	10	0	0	3	3	0
	M.Cloudy	1	6	9	12	10	0	0	2	3	0
EAST	M.Clear	7	57	53	16	10	0	0	12	3	0
	M.Cloudy	2	17	21	13	10	0	0	4	3	0
SOUTH	M.Clear	1	27	66	84	72	0	0	32	37	0
	M.Cloudy	1	10	24	32	28	0	0	8	9	0
WEST	M.Clear	1	7	10	11	47	0	0	3	10	0
	M.Cloudy	1	6	9	12	21	0	0	2	4	0
M.Clear	(% hrs)	16	14	14	12	11	40	33	31	30	31

Wind Summary - December, January, and February

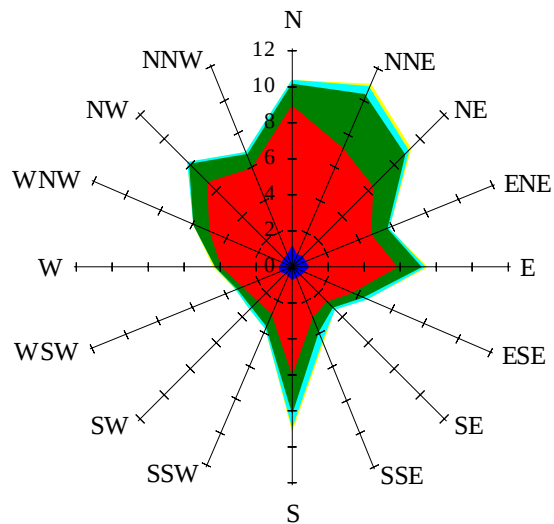
Labels of Percent Frequency on North Axis



Percent Calm = 0.46

Wind Summary - March, April, and May

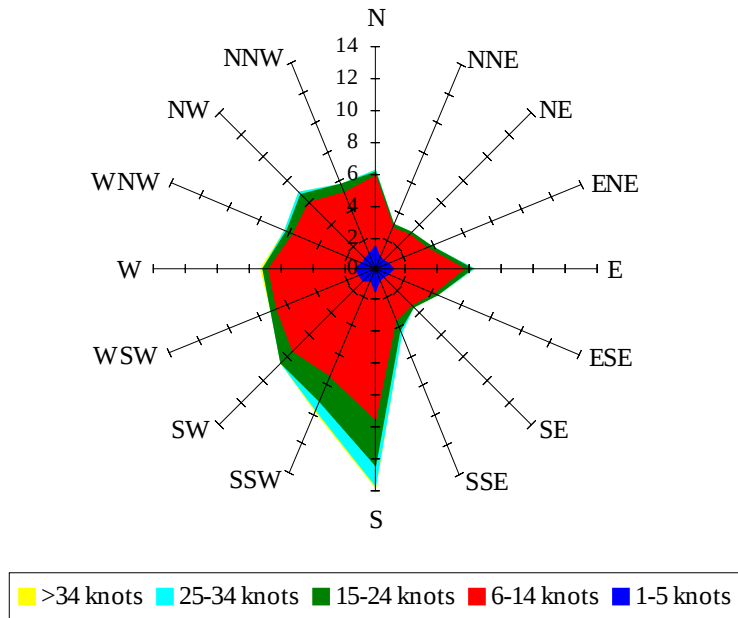
Labels of Percent Frequency on North Axis



Percent Calm = 0.49

Wind Summary - June, July, and August

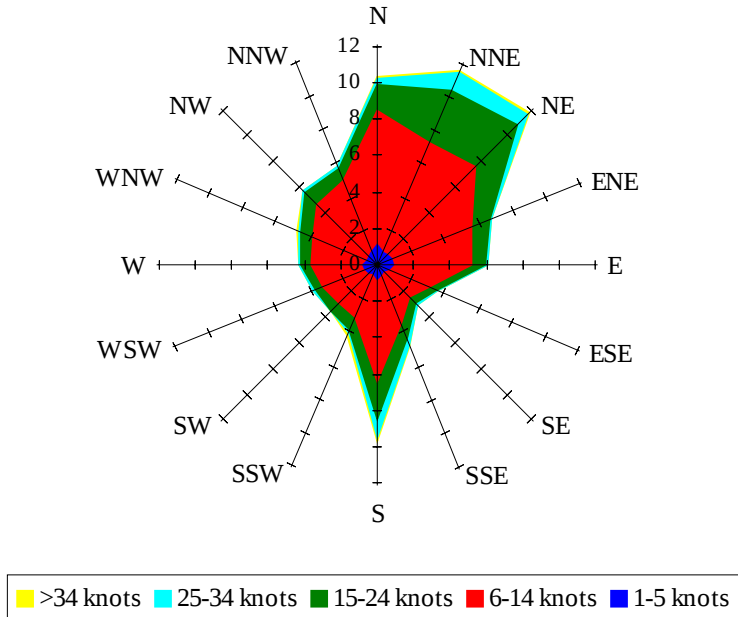
Labels of Percent Frequency on North Axis



Percent Calm = 0.90

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 0.71