

RAF MILDENHALL	UK	
Latitude = 52.37 N		WMO No. 035770
Longitude = 0.48 E		Elevation = 33 feet
Period of Record = 1973 to 1996		Average Pressure = 29.91 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	85	66	67	9.2	VARIABLE
0.4% Occurrence	81	66	68	9.1	VARIABLE
1.0% Occurrence	77	64	67	9.4	VARIABLE
2.0% Occurrence	73	62	64	9.2	VARIABLE
Mean Daily Range	13	-	-	-	-
97.5% Occurrence	30	28	19	5.9	E
99.0% Occurrence	27	26	17	5.2	E
99.6% Occurrence	25	23	15	3.9	E
Median of Extreme Lows	19	18	11	2.3	WSW
	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	71	82	91	9.4	VARIABLE
0.4% Occurrence	67	77	81	8.7	E
1.0% Occurrence	66	75	79	8.6	WSW
2.0% Occurrence	64	72	74	8.8	SW
	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	97	74	0.65	8.7	E
0.4% Occurrence	86	70	0.57	9.5	SW
1.0% Occurrence	81	68	0.54	8.3	SW
2.0% Occurrence	79	69	0.54	7.5	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		1	52	1	54

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
7	N/A	N/A	0.0 + 0.1
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 (#)
53.0	N/A	N/A	26

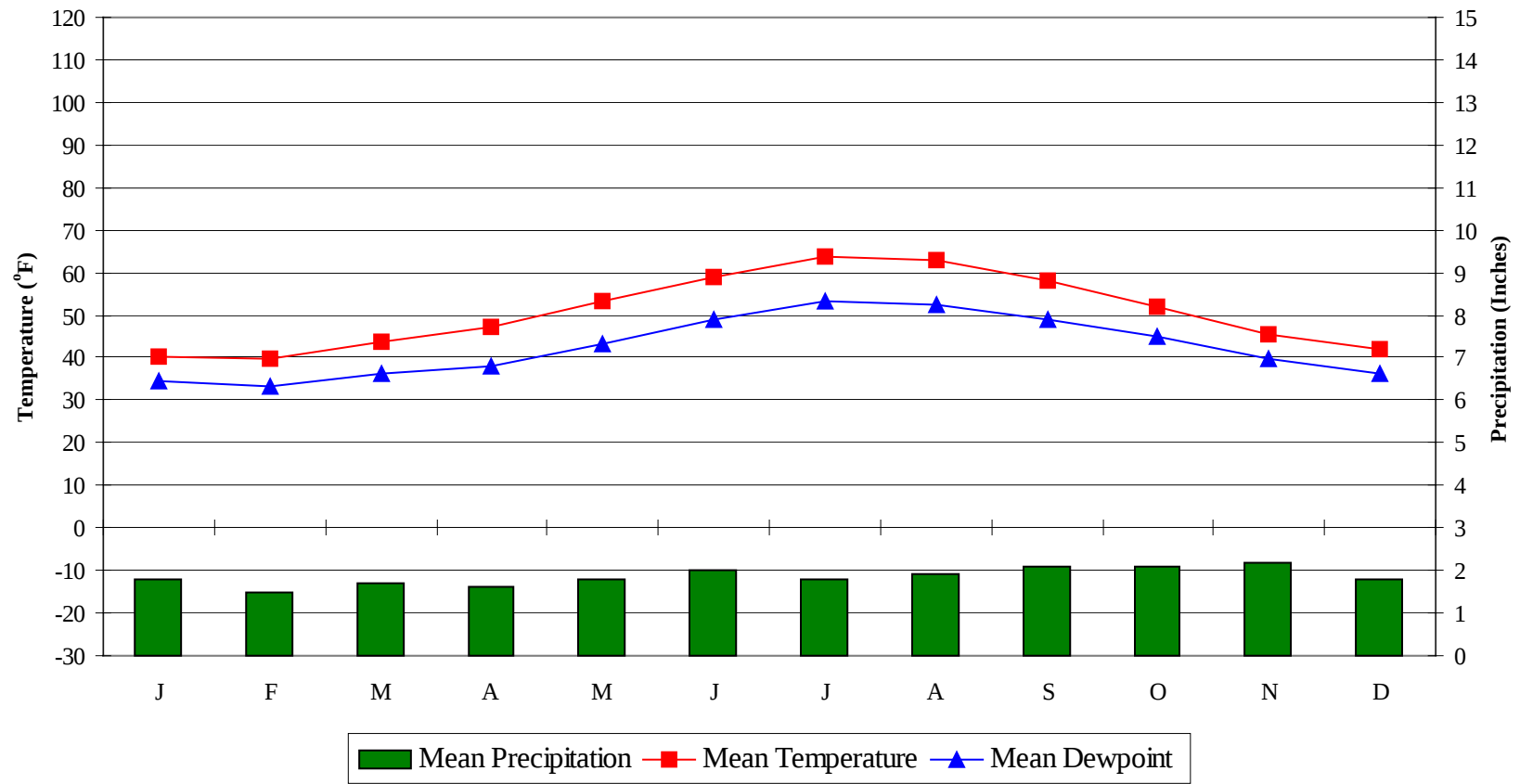
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

RAF MILDENHALL

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Average Annual Climate

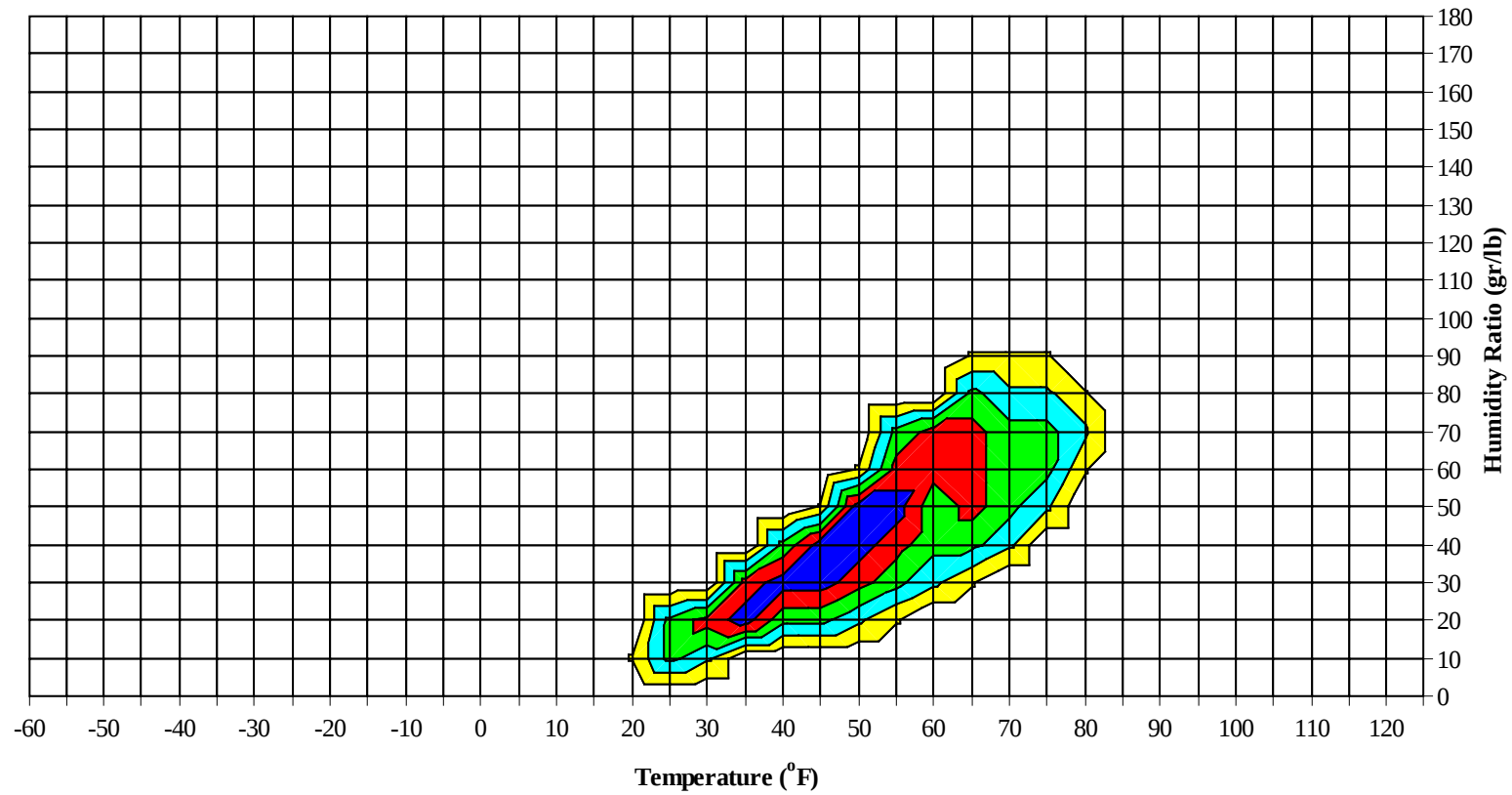


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Long Term Psychrometric Summary



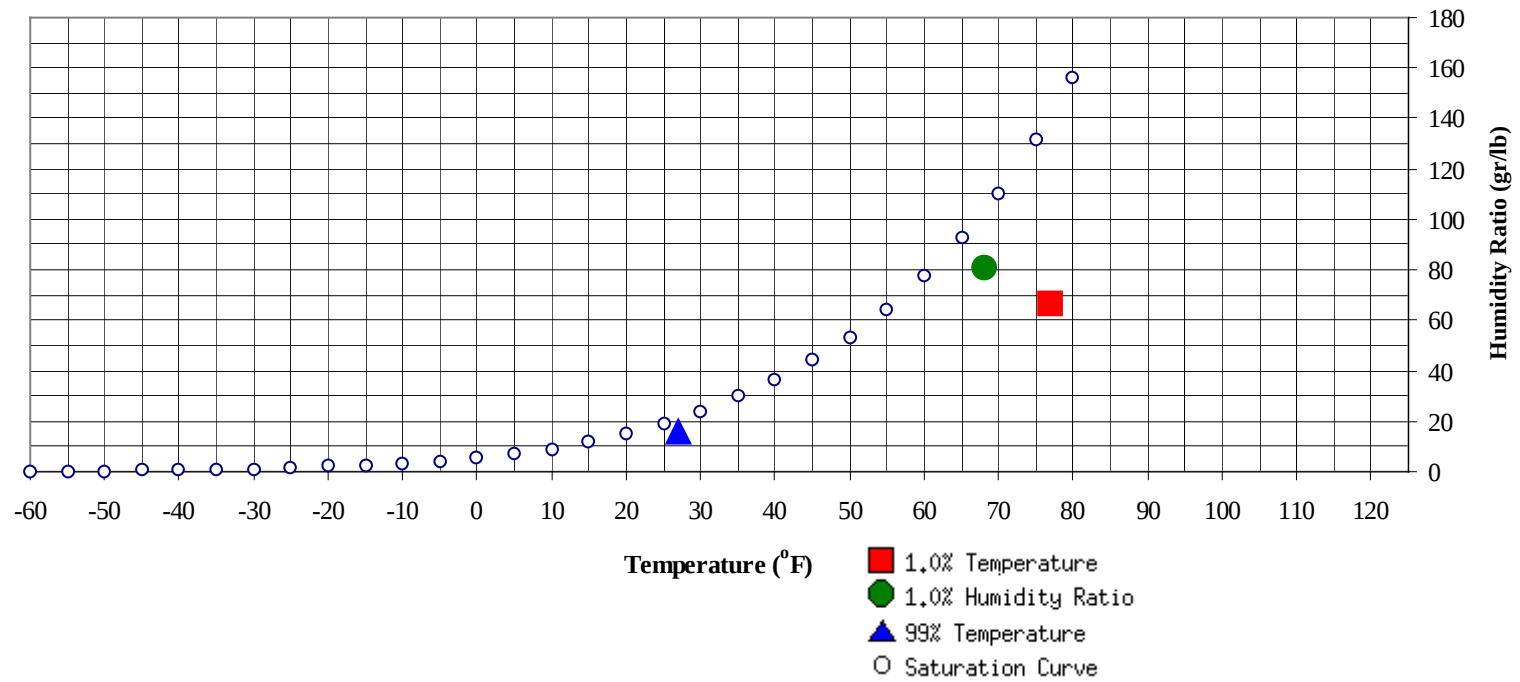
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values



	(°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	27	16.1	8.9		80.5	68.2	63.5	60.8	28.9

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	77	66.9	63.9	28.9

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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		
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74													0	0	56.7
65 / 69													0	0	55.3
60 / 64							1	0	1	53.8		6	1	7	52.8
55 / 59	2	5	3	9	51.4	1	6	2	8	51.3	1	23	7	31	50.4
50 / 54	18	32	21	71	47.9	9	30	16	55	47.4	20	60	38	118	47.1
45 / 49	50	66	59	175	43.4	39	60	52	152	43.1	54	89	76	219	42.8
40 / 44	38	41	40	119	39.4	28	35	33	96	39.2	49	37	49	134	39.2
35 / 39	76	67	74	217	35.1	70	62	65	196	34.9	86	30	61	177	35.2
30 / 34	41	27	37	104	30.3	50	25	43	118	30.1	33	3	14	50	30.4
25 / 29	18	8	12	38	25.2	21	5	12	38	25.3	6	0	1	7	26.0
20 / 24	3	1	1	6	20.5	4	1	1	6	20.8	0			0	21.8
15 / 19	3	1	1	5	16.5	2	0	0	2	17.9	0			0	19.0
10 / 14	0		0	0	12.0										

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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WMO No. 035770

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		
95 / 99												0	0	0	69.0
90 / 94												0	0	1	69.1
85 / 89												1	0	2	67.1
80 / 84							2	0	2	64.2		6	2	8	65.0
75 / 79							6	1	8	61.2	0	15	5	20	63.3
70 / 74		3	1	4	56.8	0	17	5	22	58.7	2	38	17	57	60.5
65 / 69		7	1	8	55.6	1	18	7	25	56.6	3	31	18	52	58.1
60 / 64	0	23	9	33	52.9	6	58	29	93	53.9	25	71	55	151	55.8
55 / 59	5	44	24	73	49.8	29	66	54	149	50.7	70	57	71	199	52.6
50 / 54	27	73	50	150	46.3	74	58	72	204	47.7	90	19	57	166	49.2
45 / 49	79	65	81	225	42.5	92	21	62	175	43.8	42	1	14	57	44.6
40 / 44	52	17	38	107	39.3	25	1	11	37	39.7	6	0	1	6	40.2
35 / 39	56	8	31	95	35.5	19	0	6	25	36.2	2	0	0	2	36.2
30 / 34	19	0	5	25	31.1	4		0	4	31.6					
25 / 29	2		0	2	26.9										
20 / 24	0			0	22.3										
15 / 19															
10 / 14															

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WMO No. 035770

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		
95 / 99		0		0	69.0										
90 / 94		1	0	2	66.6		1	0	1	67.2					
85 / 89		2	1	3	67.3		2	0	2	66.6		0	0	0	70.5
80 / 84	0	14	5	19	66.2		10	3	13	65.4		1	0	1	67.3
75 / 79	0	33	15	48	64.4	0	30	11	41	63.6		7	1	8	64.7
70 / 74	4	66	39	109	61.7	3	66	34	103	61.1	0	30	7	37	60.9
65 / 69	12	44	37	94	59.9	9	48	34	92	59.2	2	35	12	49	58.5
60 / 64	77	67	83	227	57.5	69	72	86	227	57.3	31	96	67	195	56.4
55 / 59	91	16	51	158	53.9	93	18	58	168	53.9	71	55	80	206	52.8
50 / 54	50	2	17	69	50.1	54	2	19	75	50.0	79	15	54	147	49.3
45 / 49	14		1	15	45.5	18		3	21	45.4	45	1	17	63	44.3
40 / 44	0			0	39.6	1			1	40.9	9		2	10	40.4
35 / 39											4		0	4	37.3
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															

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WMO No. 035770

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		
95 / 99															
90 / 94															
85 / 89															
80 / 84		0		0	63.0										
75 / 79		1		1	64.1										
70 / 74		3	1	4	61.4										
65 / 69	0	8	2	10	59.8										
60 / 64	11	52	21	83	56.6	1	6	2	9	57.1	0	0		0	55.5
55 / 59	40	77	54	170	52.7	14	30	20	63	52.9	5	12	7	25	52.4
50 / 54	71	75	78	223	48.6	44	64	48	156	48.8	29	37	31	98	48.6
45 / 49	70	27	65	162	44.0	60	76	70	206	43.6	54	70	60	183	43.6
40 / 44	24	3	15	43	40.0	36	31	36	103	39.7	36	43	41	120	39.6
35 / 39	25	2	11	38	36.2	52	26	45	122	35.6	74	59	68	200	35.5
30 / 34	8	0	2	10	31.5	25	6	18	49	30.8	29	19	29	77	30.7
25 / 29	0			0	27.3	6	1	2	9	25.7	17	6	10	33	25.6
20 / 24						1	0	0	1	20.5	3	1	1	5	21.2
15 / 19						0	0	0	0	18.0	1	0	1	2	17.2
10 / 14											0		0	0	12.0

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.

RAF MILDENHALL

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WMO No. 035770

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		
95 / 99		0	0	0	69.0
90 / 94		3	0	3	67.3
85 / 89		6	1	7	67.1
80 / 84	0	33	9	42	65.7
75 / 79	1	89	33	122	63.8
70 / 74	10	218	102	329	60.9
65 / 69	27	187	108	321	58.8
60 / 64	214	446	347	1007	56.4
55 / 59	412	407	427	1245	52.5
50 / 54	560	469	501	1530	48.3
45 / 49	621	482	565	1668	43.4
40 / 44	306	210	270	786	39.5
35 / 39	468	258	366	1092	35.3
30 / 34	213	83	151	446	30.5
25 / 29	71	21	38	131	25.5
20 / 24	12	3	4	19	20.8
15 / 19	6	1	2	9	17.1
10 / 14	0		0	1	12.0

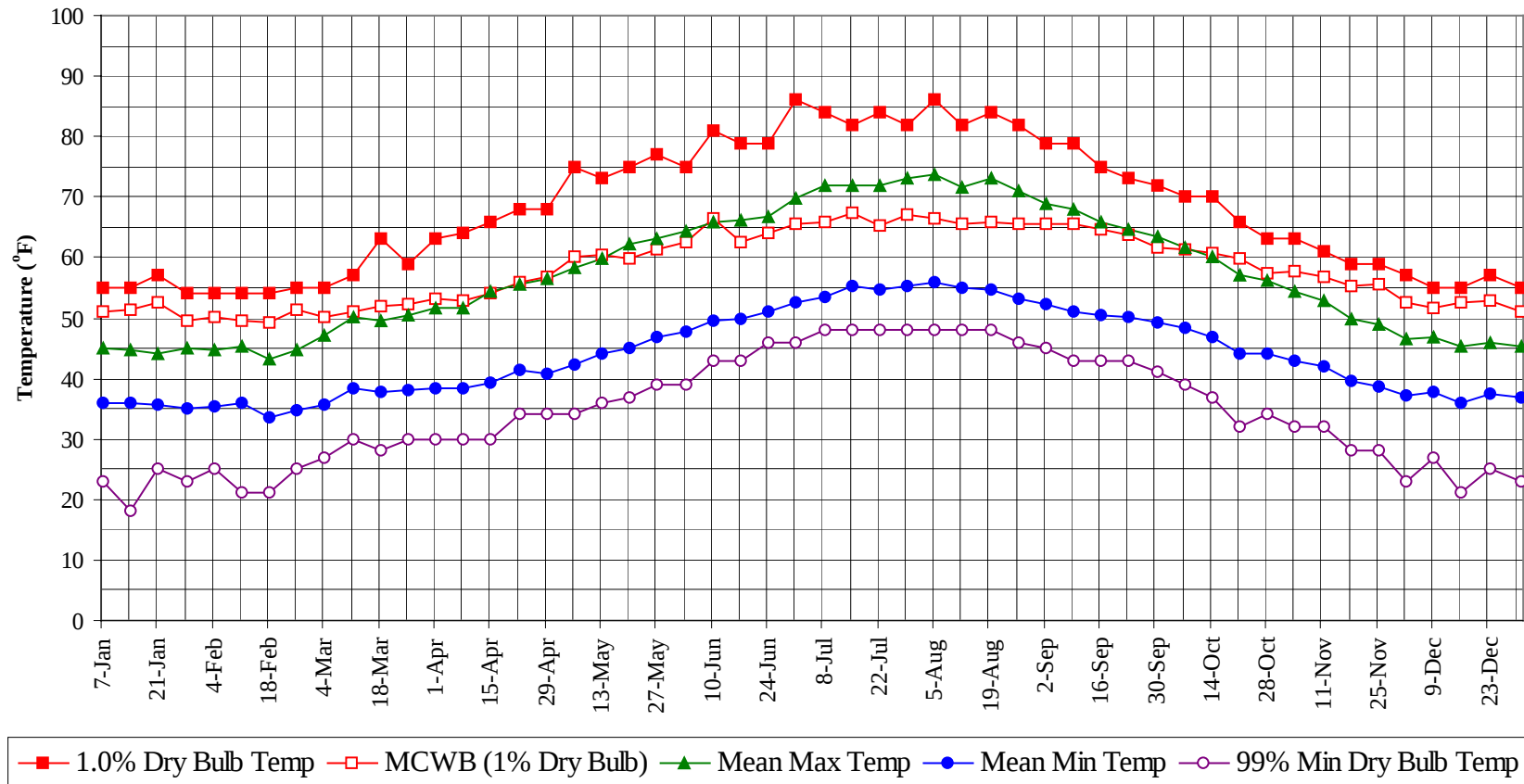
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

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WMO No. 035770

Annual Summary of Temperatures

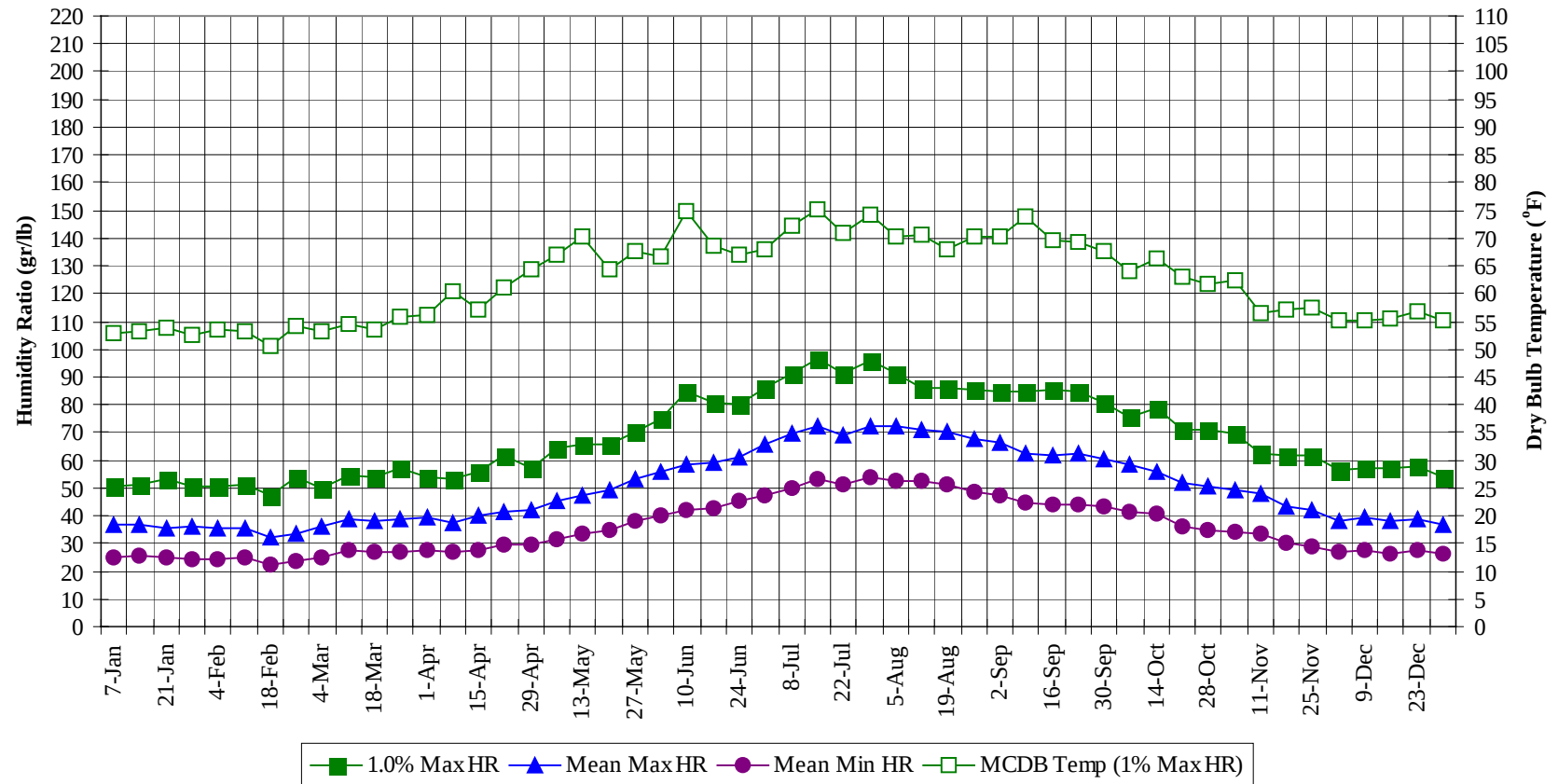


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Long Term Humidity and Dry Bulb Temperature Summary



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WMO No. 035770

Long Term Dry Bulb Temperature and Humidity Summary

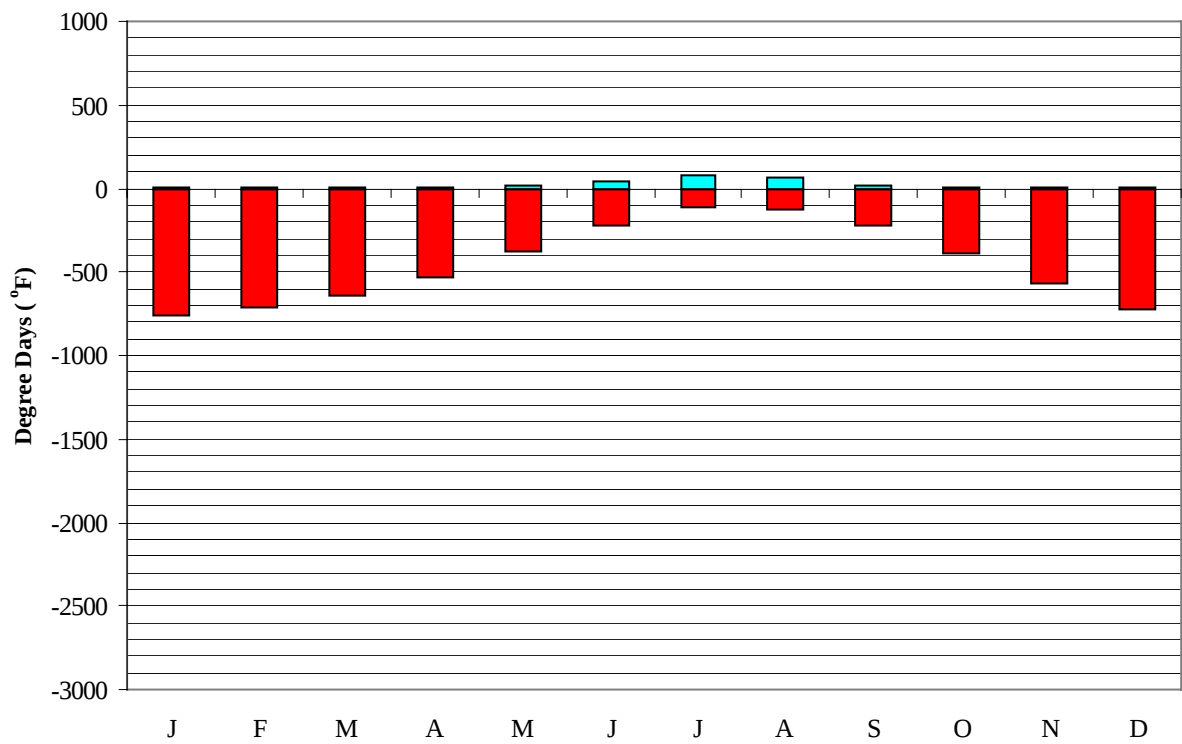
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	55.0	51.0	44.9	36.0	23.0	50.4	53.0	36.5	25.1
14-Jan	55.0	51.5	44.8	35.9	18.0	51.1	53.1	36.6	25.4
21-Jan	57.0	52.5	44.2	35.7	25.0	53.2	53.8	35.2	24.9
28-Jan	54.0	49.6	44.9	35.1	23.0	50.4	52.6	35.9	24.2
4-Feb	54.0	50.1	44.6	35.3	25.0	50.4	53.5	35.3	24.4
11-Feb	54.0	49.7	45.2	36.0	21.0	51.1	53.2	35.4	25.2
18-Feb	54.0	49.1	43.3	33.6	21.0	47.6	50.7	32.1	22.5
25-Feb	55.0	51.4	44.9	34.8	25.0	53.9	54.1	33.4	23.8
4-Mar	55.0	50.1	47.0	35.7	27.0	49.7	53.3	36.1	25.2
11-Mar	57.0	51.1	50.2	38.2	30.0	54.6	54.4	38.8	27.6
18-Mar	63.0	52.1	49.5	37.9	28.0	53.9	53.6	38.2	27.1
25-Mar	59.0	52.2	50.4	38.1	30.0	57.4	55.8	38.8	27.0
1-Apr	63.0	53.2	51.7	38.4	30.0	53.9	56.2	39.6	27.5
8-Apr	64.0	52.8	51.7	38.2	30.0	53.2	60.3	37.6	27.1
15-Apr	66.0	54.2	54.5	39.3	30.0	56.0	57.0	40.0	27.6
22-Apr	68.0	56.0	55.7	41.3	34.0	61.6	61.2	41.5	29.5
29-Apr	68.0	56.9	56.6	40.9	34.0	57.4	64.5	41.9	29.3
6-May	75.0	60.2	58.2	42.4	34.0	64.4	67.1	45.2	31.4
13-May	73.0	60.4	60.0	44.2	36.0	65.8	70.3	47.2	33.7
20-May	75.0	59.7	62.2	45.0	37.0	65.8	64.4	49.5	34.9
27-May	77.0	61.3	63.2	46.9	39.0	70.0	67.8	53.4	38.0
3-Jun	75.0	62.6	64.3	47.8	39.0	74.9	66.6	55.9	39.8
10-Jun	81.0	66.5	66.0	49.7	43.0	84.7	74.7	58.3	42.0
17-Jun	79.0	62.5	66.3	49.7	43.0	80.5	68.7	59.0	42.5
24-Jun	79.0	64.1	66.9	51.0	46.0	79.8	66.9	61.1	45.0
1-Jul	86.0	65.5	69.7	52.5	46.0	86.1	68.1	65.7	47.6
8-Jul	84.0	65.9	72.0	53.4	48.0	91.0	72.1	69.5	50.1
15-Jul	82.0	67.4	71.8	55.3	48.0	96.6	75.1	72.2	53.0
22-Jul	84.0	65.3	71.8	54.6	48.0	91.0	70.8	69.1	51.0
29-Jul	82.0	67.0	73.0	55.4	48.0	95.9	74.2	72.3	53.8
5-Aug	86.0	66.4	73.6	55.9	48.0	91.0	70.2	72.0	52.4
12-Aug	82.0	65.4	71.6	55.0	48.0	86.1	70.6	70.6	52.4
19-Aug	84.0	65.9	73.1	54.8	48.0	86.1	68.1	70.5	51.3
26-Aug	82.0	65.7	70.9	53.2	46.0	85.4	70.4	67.5	48.8
2-Sep	79.0	65.4	69.0	52.2	45.0	84.7	70.2	66.3	47.5
9-Sep	79.0	65.5	68.1	51.1	43.0	84.7	74.0	62.6	44.6
16-Sep	75.0	64.7	65.9	50.4	43.0	85.4	69.8	61.6	44.0
23-Sep	73.0	63.7	64.8	50.1	43.0	84.7	69.3	62.4	43.8
30-Sep	72.0	61.7	63.3	49.3	41.0	80.5	67.5	60.3	43.3
7-Oct	70.0	61.4	61.6	48.3	39.0	75.6	63.9	58.3	41.1
14-Oct	70.0	60.6	60.2	46.9	37.0	79.1	66.4	56.1	40.7
21-Oct	66.0	60.0	57.0	44.0	32.0	70.7	62.9	51.7	35.9
28-Oct	63.0	57.3	56.3	44.0	34.0	70.7	61.7	50.6	35.1
4-Nov	63.0	57.7	54.3	42.8	32.0	69.3	62.3	49.4	34.2
11-Nov	61.0	56.7	52.8	42.0	32.0	62.3	56.6	47.6	33.4
18-Nov	59.0	55.2	49.8	39.5	28.0	61.6	57.2	43.5	30.2
25-Nov	59.0	55.6	49.0	38.8	28.0	61.6	57.6	41.9	28.9
2-Dec	57.0	52.6	46.6	37.0	23.0	56.7	55.2	38.2	27.2
9-Dec	55.0	51.5	46.9	37.7	27.0	57.4	55.2	39.6	27.8
16-Dec	55.0	52.6	45.3	36.0	21.0	57.4	55.4	38.4	26.3
23-Dec	57.0	53.0	46.1	37.5	25.0	58.1	57.0	38.5	27.6
31-Dec	55.0	51.1	45.3	36.9	23.0	53.9	55.3	37.1	26.4

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



Mean Cooling Degree Days Mean Heating Degree Days

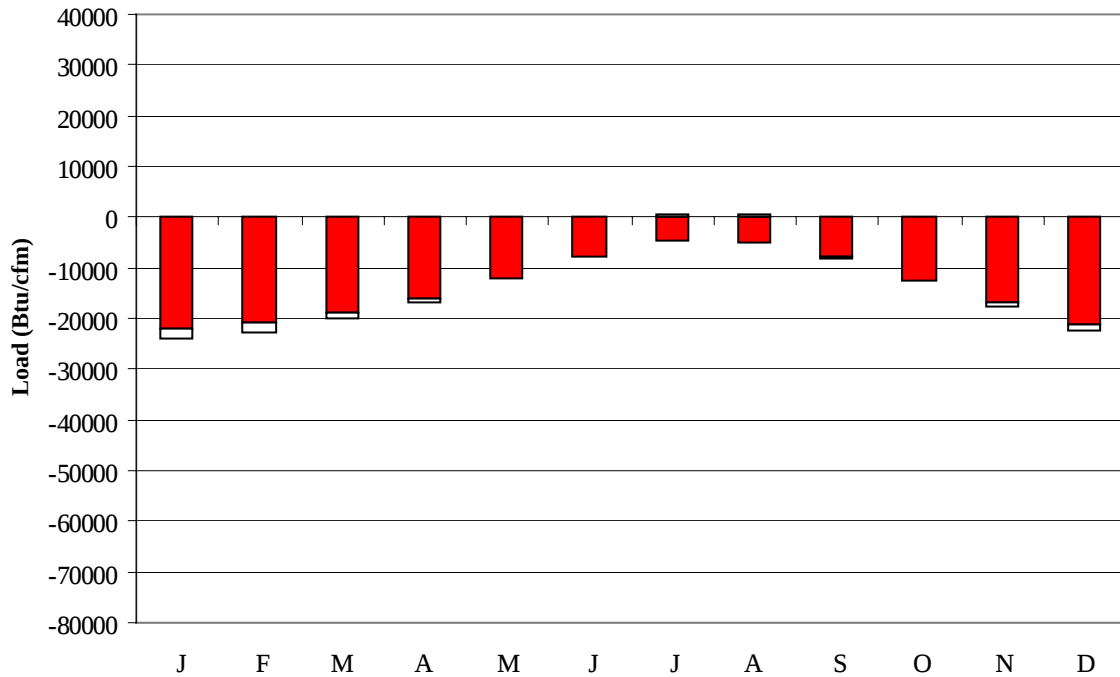
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	757
FEB	0	710
MAR	0	639
APR	2	531
MAY	12	374
JUN	36	219
JUL	74	116
AUG	60	128
SEP	16	227
OCT	2	394
NOV	0	568
DEC	0	722
ANN	202	5385

RAF MILDENHALL

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

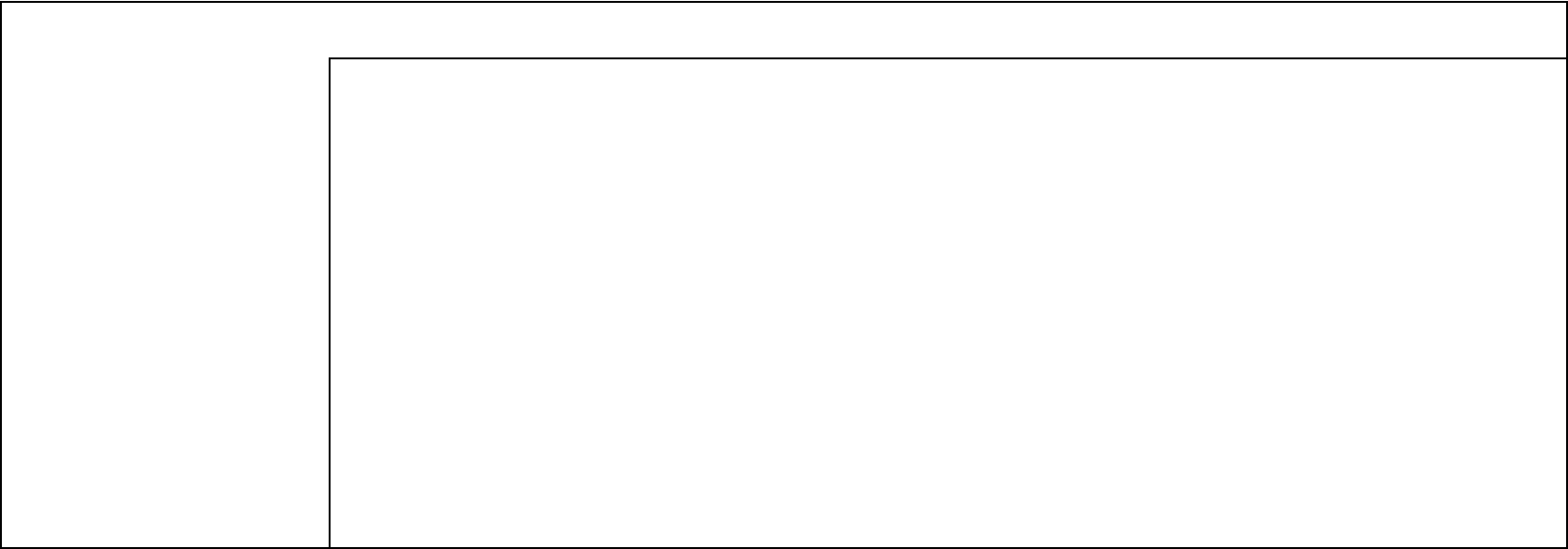


Average Sensible Cooling Load	Average Sensible Heating Load
Average Latent Cooling (Drying) Load	Average Latent Heating (Humidifying) Load

	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	-22007	0	-1931
FEB	0	-20600	0	-2101
MAR	0	-18907	0	-1272
APR	0	-16060	0	-844
MAY	24	-11948	1	-218
JUN	124	-7608	55	-12
JUL	278	-4587	308	0
AUG	203	-4970	133	0
SEP	22	-7959	54	-18
OCT	2	-12497	3	-153
NOV	0	-16977	0	-764
DEC	0	-21121	0	-1441
ANN	653	-165241	554	-8754

Average Annual Solar Radiation – Nearest Available Site
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

No Solar Radiation
Data Available

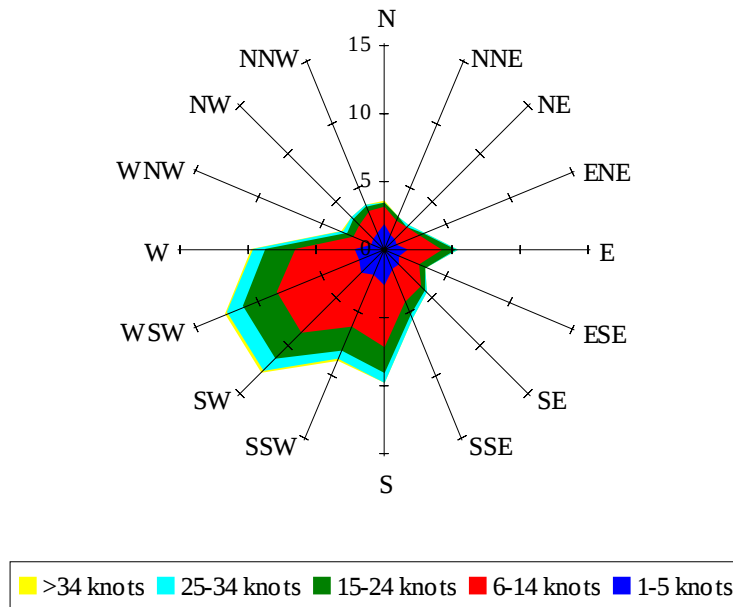


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

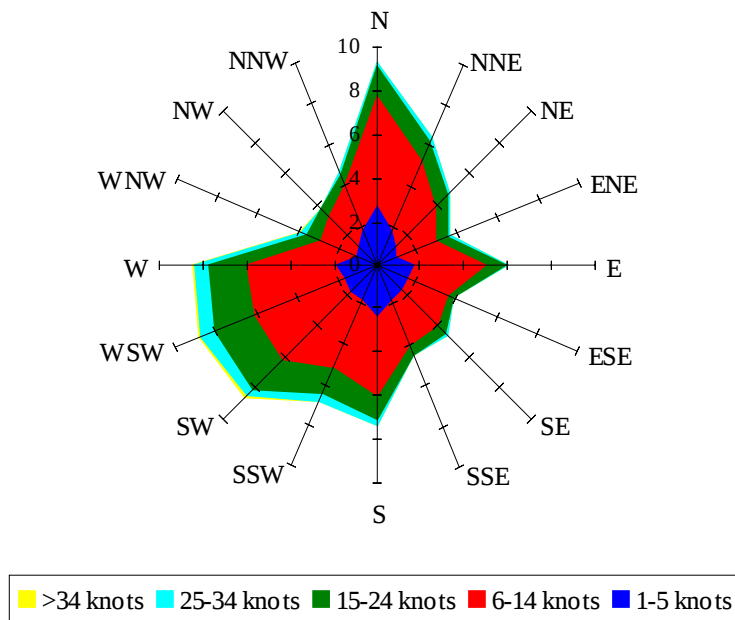
Labels of Percent Frequency on North Axis



Percent Calm = 7.22

Wind Summary - March, April, and May

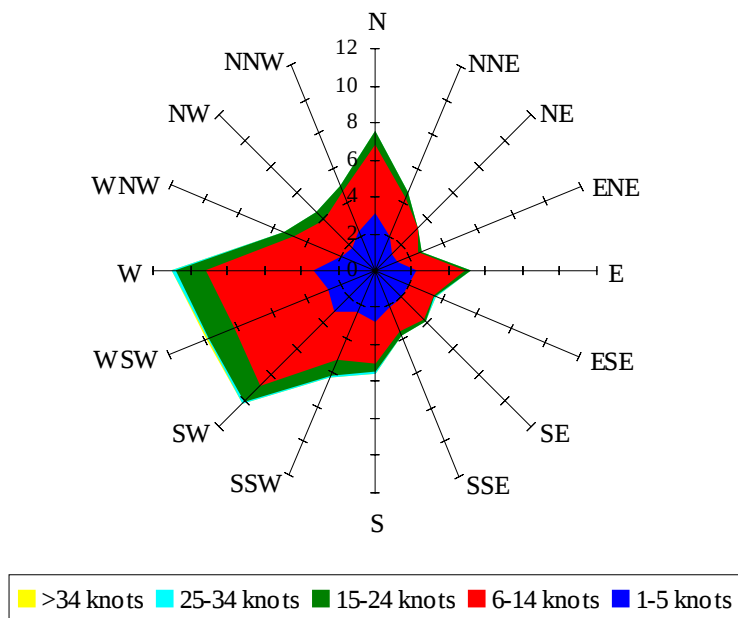
Labels of Percent Frequency on North Axis



Percent Calm = 5.69

Wind Summary - June, July, and August

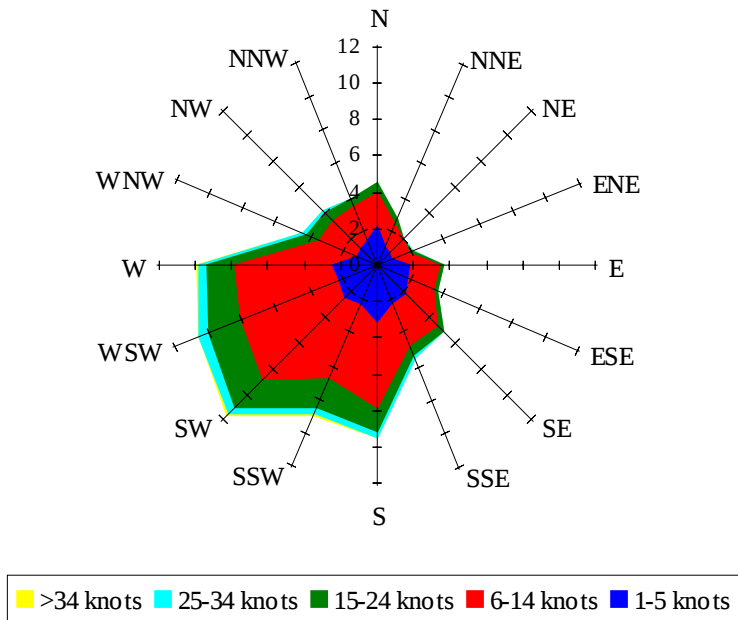
Labels of Percent Frequency on North Axis



Percent Calm = 8.72

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 8.56