

EDINBURGH, UK

Latitude = 55.95 N

Longitude = 3.35 W

Period of Record = 1973 to 1996

WMO No. 031600

Elevation = 135 feet

Average Pressure = 29.72 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	79	64	63	10.8	W
0.4% Occurrence	73	62	65	10.0	W
1.0% Occurrence	70	61	64	10.3	WSW
2.0% Occurrence	67	59	62	11.2	WSW
Mean Daily Range	12	-	-	-	-
97.5% Occurrence	29	28	21	4.4	W
99.0% Occurrence	25	24	17	2.8	WSW
99.6% Occurrence	21	20	14	2.0	W
Median of Extreme Lows	17	16	11	1.6	W
	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	67	75	84	8.8	W
0.4% Occurrence	63	69	75	9.4	WSW
1.0% Occurrence	62	68	73	9.6	WSW
2.0% Occurrence	60	65	68	10.1	WSW
	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	89	71	0.60	8.7	WSW
0.4% Occurrence	80	66	0.54	8.7	WSW
1.0% Occurrence	75	64	0.50	9.1	WSW
2.0% Occurrence	71	63	0.47	9.5	WSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	3	0	4

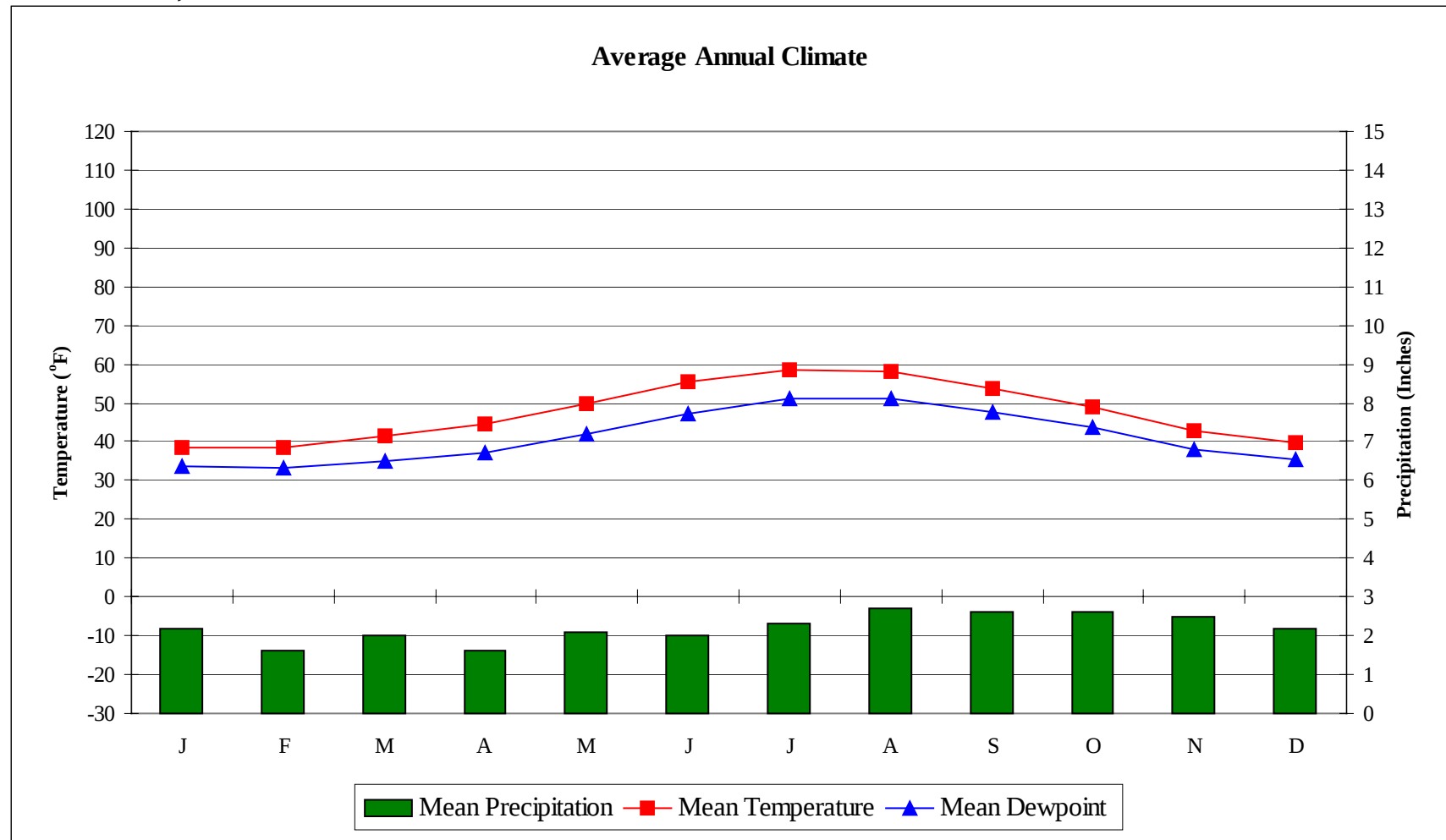
Other Site Data

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
6	N/A	N/A	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 (#)
50.0	N/A	N/A	42

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

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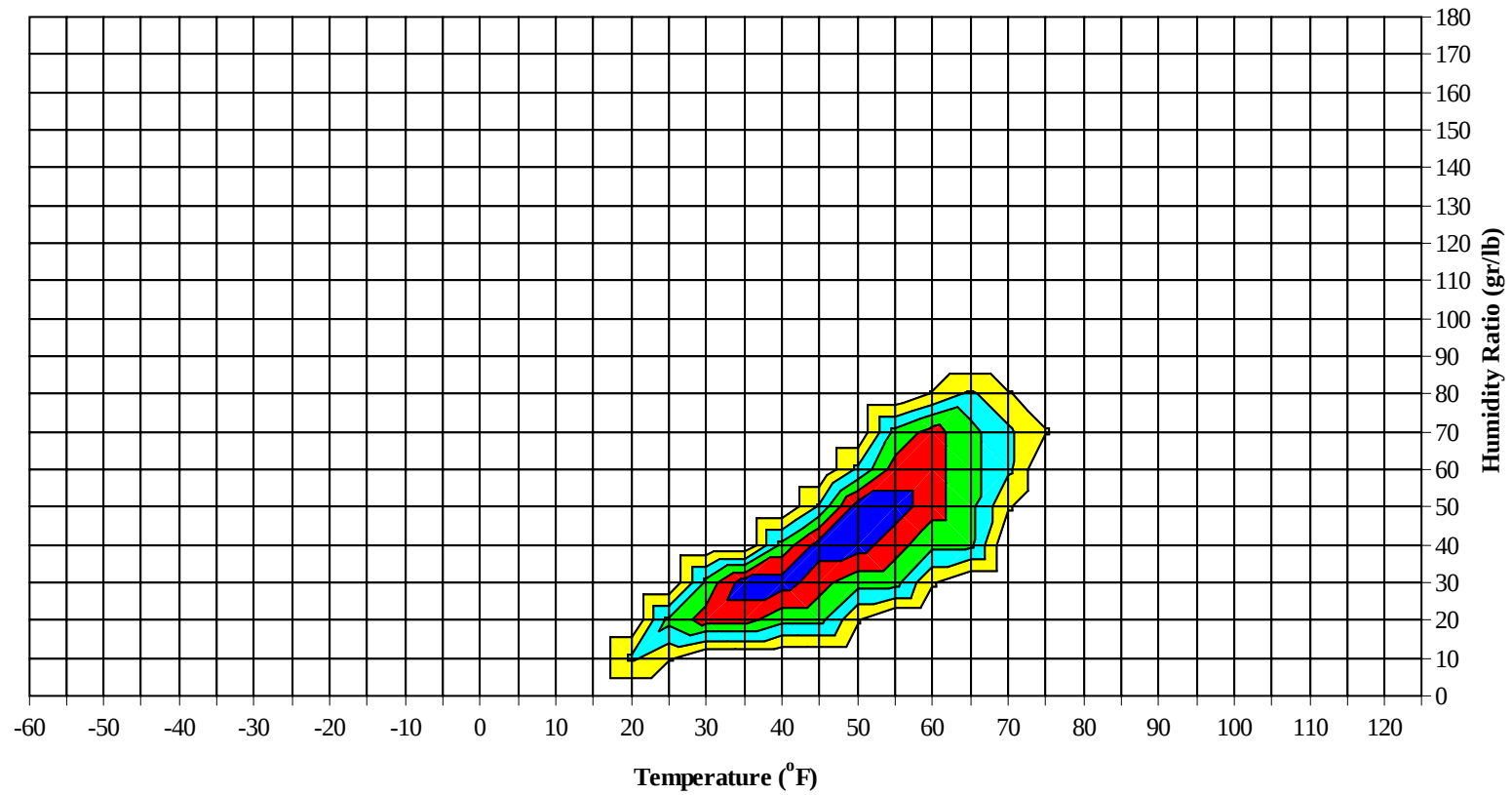
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Long Term Psychrometric Summary

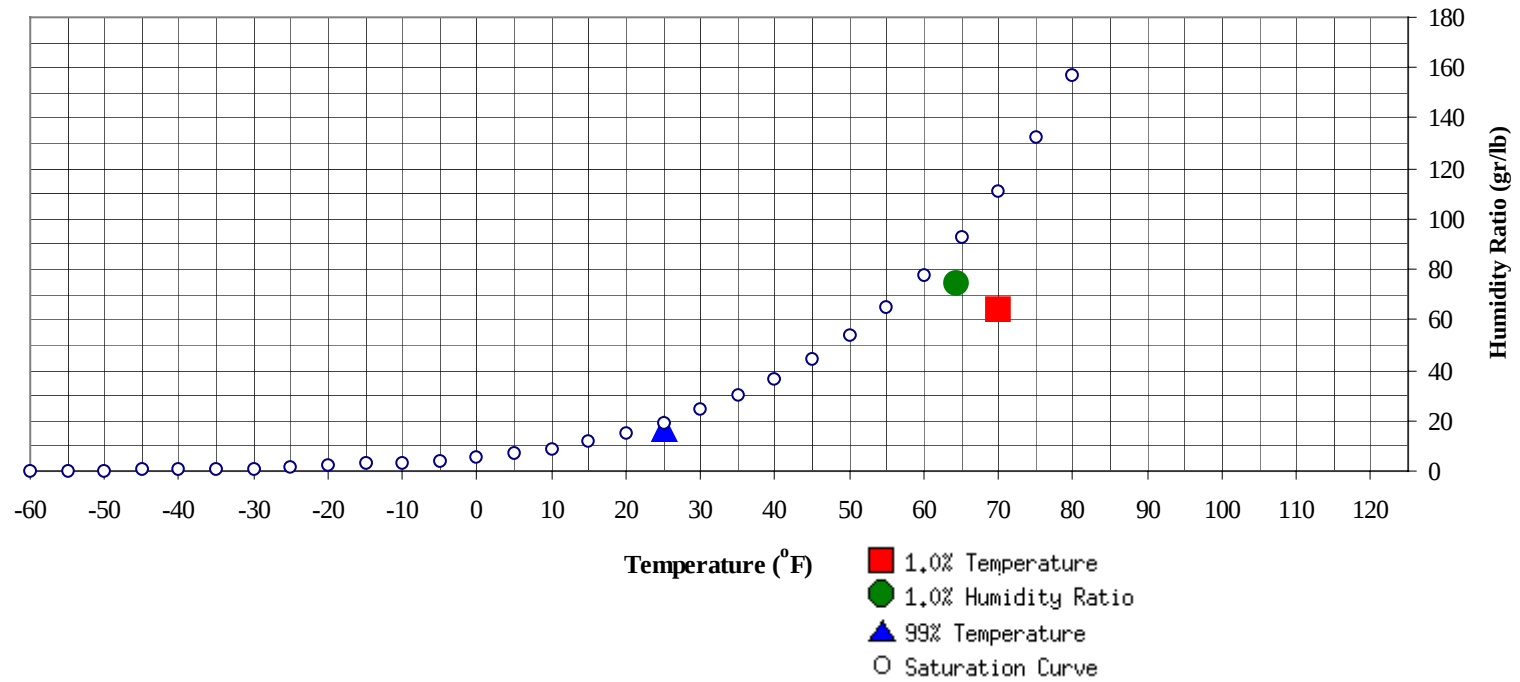


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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	25	16.9	8.6		74.9	64.2	60.9	59	27.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	70	64.2	60.6	26.8

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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		
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69															
60 / 64															
55 / 59	0	0	0	0	50.8		1		1	49.1		0	7	1	8 48.3
50 / 54	10	16	13	39	48.1	6	16	7	29	47.4	10	38	20	68	47.0
45 / 49	37	45	36	119	44.0	24	48	32	104	43.5	32	79	52	163	42.8
40 / 44	46	59	52	158	39.5	45	60	54	159	39.3	63	76	77	216	39.1
35 / 39	76	81	80	237	35.1	69	67	77	213	34.9	82	41	73	196	35.2
30 / 34	47	34	48	130	31.1	51	25	43	119	30.9	46	7	23	76	31.0
25 / 29	18	8	12	38	26.2	16	4	9	29	26.1	12	0	2	14	26.5
20 / 24	7	3	4	14	21.7	7	1	2	10	21.4	2	0	0	2	22.0
15 / 19	3	1	1	5	17.1	3	1	1	5	16.8	0			0	17.6
10 / 14	1	0	1	2	11.6	1	0	0	1	12.0					
5 / 9	1	0	0	1	5.4	1	0	0	1	6.5					
0 / 4	1	0	0	1	2.2	0			0	2.0					

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		
85 / 89															
80 / 84							0		0	64.0		1	0	1	66.8
75 / 79							1		1	58.4		3	1	4	62.4
70 / 74		0	0	0	59.0		3	1	4	58.3		13	4	17	60.4
65 / 69		1	0	1	57.3		6	2	8	55.8	1	24	10	35	57.8
60 / 64		5	2	7	53.0	1	30	11	42	53.2	8	60	33	101	55.1
55 / 59	1	27	10	38	49.8	8	67	37	112	50.5	46	91	75	212	52.1
50 / 54	13	67	36	116	46.5	47	81	73	200	47.7	104	42	86	232	49.2
45 / 49	51	80	76	208	43.0	101	53	91	244	44.2	61	6	27	94	45.2
40 / 44	78	46	72	197	39.6	56	7	27	90	40.2	17	1	3	21	41.1
35 / 39	64	12	38	114	35.4	28	1	6	35	36.0	3	0	0	3	37.2
30 / 34	27	1	6	34	31.1	7		1	8	31.5	0			0	33.2
25 / 29	5		0	5	27.0	0			0	27.5					
20 / 24	0			0	24.0										
15 / 19															
10 / 14															
5 / 9															
0 / 4															

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 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		
85 / 89							0	0	0	65.6					
80 / 84		1	0	1	64.6		1	0	1	64.4					
75 / 79		5	1	6	63.3		5	2	7	63.7				0	0 66.0
70 / 74		20	7	27	61.4	0	18	6	24	61.8		3	1	4	62.2
65 / 69	2	49	22	73	59.0	2	46	17	65	59.3	0	14	3	17	59.3
60 / 64	22	100	67	189	56.5	25	102	67	194	56.8	10	56	22	88	56.4
55 / 59	103	65	102	270	53.9	88	68	99	255	53.9	47	106	79	231	52.9
50 / 54	92	8	45	144	50.2	91	9	50	150	50.2	91	53	89	233	49.3
45 / 49	26		4	30	45.9	33	0	7	40	45.9	58	8	35	101	45.2
40 / 44	3		0	3	41.7	7		0	7	41.4	20	1	9	30	41.1
35 / 39	0			0	37.8	1			1	38.1	9	0	3	12	36.7
30 / 34	0			0	32.0						4			4	32.2
25 / 29											0			0	28.5
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															

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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		
85 / 89															
80 / 84															
75 / 79															
70 / 74		0		0	63.8										
65 / 69		2	0	2	59.4										
60 / 64	3	15	5	23	56.3		0	0	0	57.3					
55 / 59	21	62	29	112	52.7	7	13	6	26	52.9	1	2	1	4	52.7
50 / 54	62	95	80	238	49.1	28	47	30	105	48.6	21	24	21	66	48.6
45 / 49	75	55	77	208	44.4	54	75	63	192	44.2	41	50	44	135	44.2
40 / 44	44	15	34	93	40.2	55	54	58	167	39.7	49	67	53	169	39.7
35 / 39	27	3	17	47	36.3	44	35	50	129	35.6	71	67	71	209	35.4
30 / 34	12	1	5	18	31.5	33	12	24	69	31.1	38	26	36	100	31.3
25 / 29	3		0	3	27.1	14	3	8	25	26.5	15	8	13	36	26.3
20 / 24	0			0	22.4	4	1	1	6	22.1	6	2	4	12	21.6
15 / 19						1	0	0	1	17.5	4	1	3	8	16.9
10 / 14								0	0	14.0	2	1	1	4	11.9
5 / 9											1	0	0	1	7.2
0 / 4															

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

Period of Record = 1973 to 1996

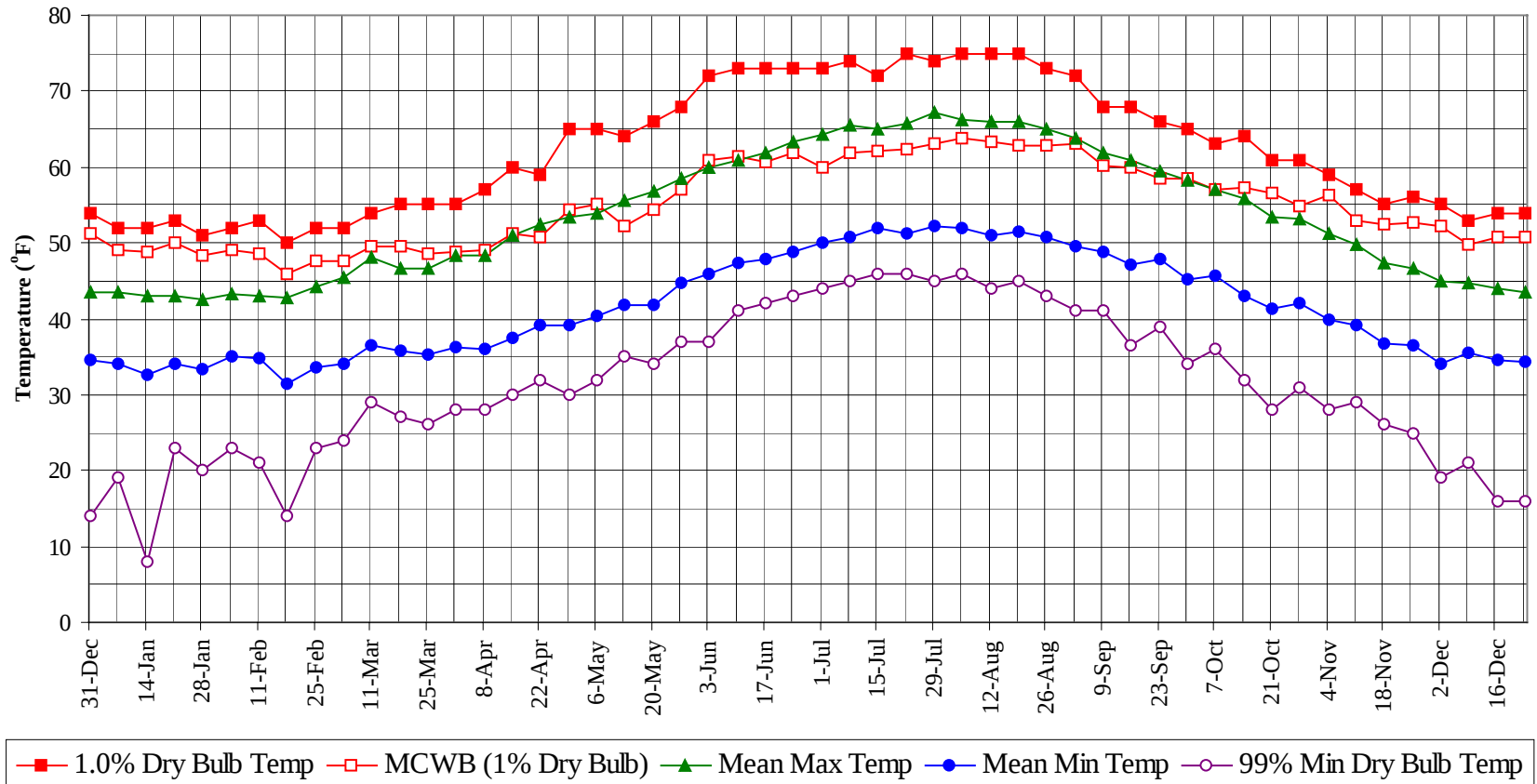
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
85 / 89		0	0	0	65.6
80 / 84		2	1	3	65.0
75 / 79		13	4	17	63.1
70 / 74	0	57	18	75	61.2
65 / 69	4	143	54	201	58.8
60 / 64	69	368	207	644	56.1
55 / 59	320	508	440	1268	52.8
50 / 54	575	495	550	1620	48.8
45 / 49	595	500	543	1638	44.1
40 / 44	485	385	437	1307	39.6
35 / 39	476	306	416	1198	35.3
30 / 34	268	106	186	559	31.1
25 / 29	84	24	44	152	26.3
20 / 24	26	7	11	44	21.7
15 / 19	11	3	5	19	17.0
10 / 14	3	1	3	7	11.9
5 / 9	3	1	1	5	6.4
0 / 4	1	0	0	1	2.2

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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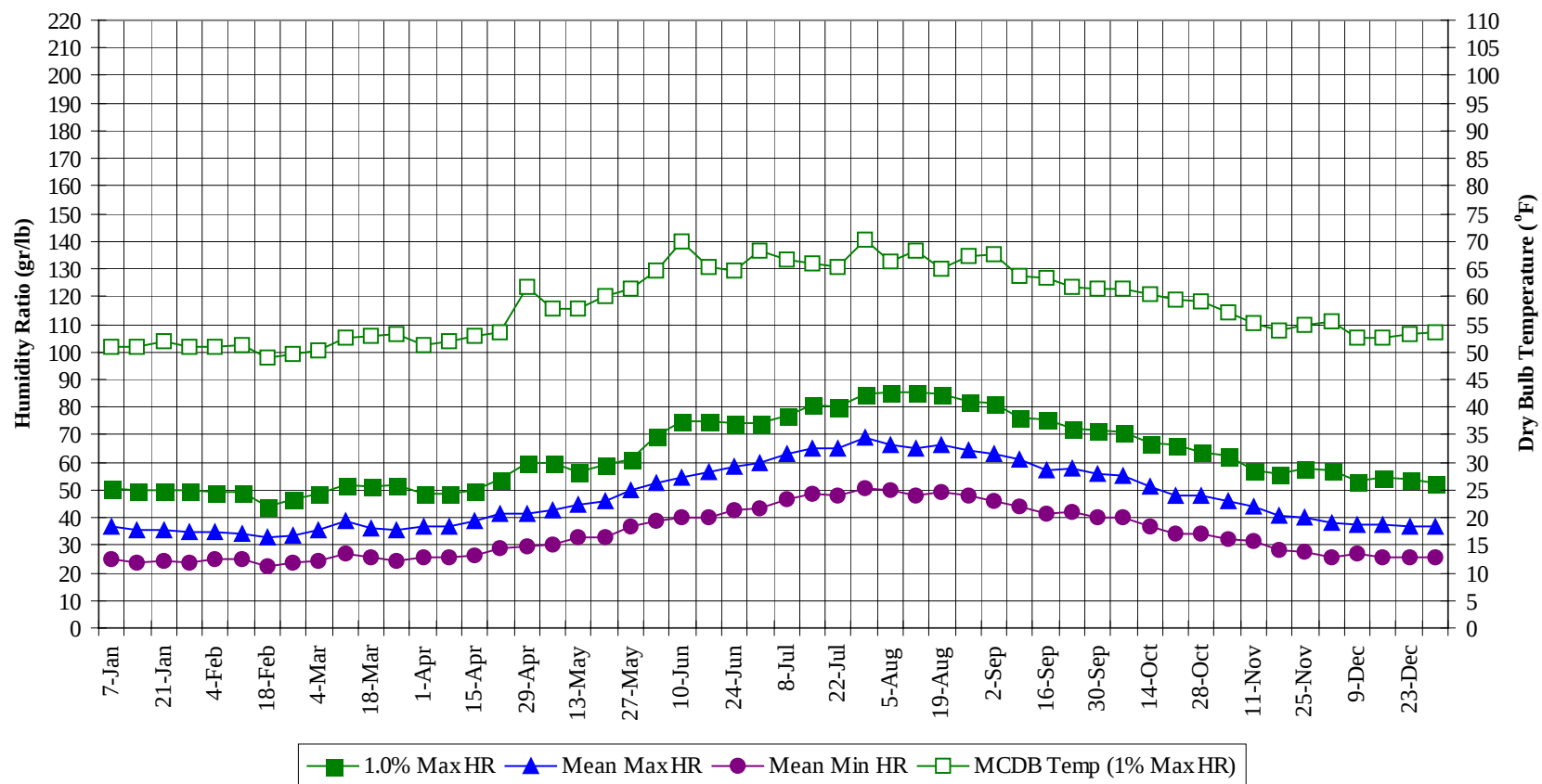
Annual Summary of Temperatures



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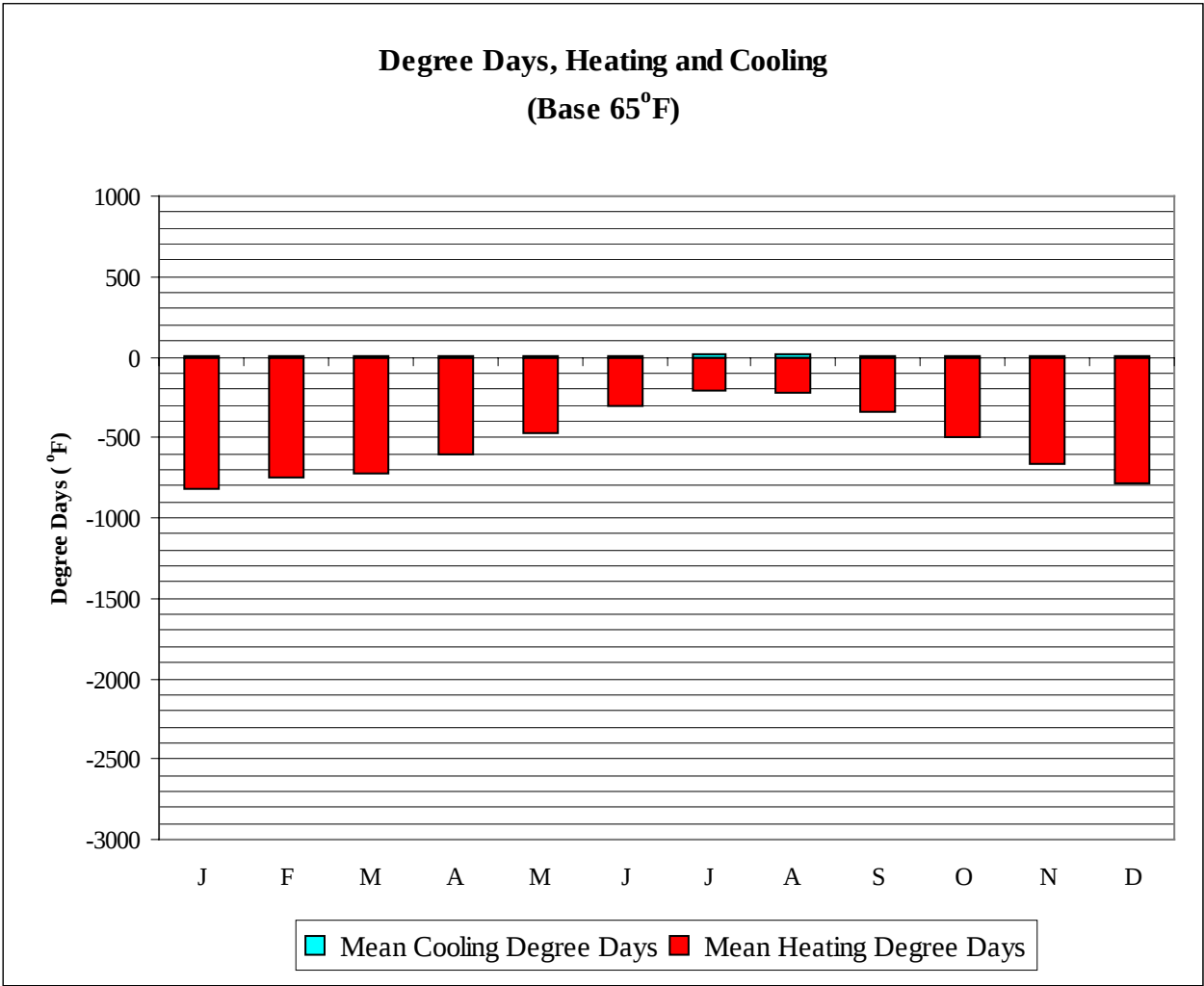
WMO No. 031600

Long Term Humidity and Dry Bulb Temperature Summary



EDINBURGH, UK**WMO No. 031600****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	52.0	49.0	43.5	34.0	19.0	50.4	51.0	36.5	25.1
14-Jan	52.0	48.8	43.0	32.6	8.0	49.7	51.1	35.3	23.5
21-Jan	53.0	49.9	43.0	34.0	23.0	49.7	51.7	35.2	24.6
28-Jan	51.0	48.2	42.5	33.3	20.0	49.7	50.7	34.5	23.7
4-Feb	52.0	49.2	43.3	35.0	23.0	49.0	51.0	34.9	24.8
11-Feb	53.0	48.5	43.1	34.7	21.0	49.0	51.1	34.2	24.9
18-Feb	50.0	46.0	42.7	31.4	14.0	44.1	48.8	32.5	22.2
25-Feb	52.0	47.7	44.2	33.6	23.0	46.9	49.7	33.5	23.5
4-Mar	52.0	47.5	45.4	34.0	24.0	48.3	50.3	35.4	24.4
11-Mar	54.0	49.7	48.0	36.6	29.0	51.8	52.4	38.5	26.9
18-Mar	55.0	49.6	46.6	35.8	27.0	51.1	52.8	36.4	25.4
25-Mar	55.0	48.6	46.7	35.2	26.0	51.8	53.1	35.3	24.2
1-Apr	55.0	48.8	48.4	36.2	28.0	48.3	51.4	36.8	25.8
8-Apr	57.0	49.1	48.4	36.1	28.0	48.3	51.8	36.6	25.8
15-Apr	60.0	51.3	51.0	37.4	30.0	49.7	52.7	38.4	26.5
22-Apr	59.0	50.7	52.4	39.2	32.0	53.9	53.6	41.3	28.7
29-Apr	65.0	54.5	53.4	39.1	30.0	59.5	61.7	41.4	29.3
6-May	65.0	55.2	54.0	40.3	32.0	59.5	57.7	43.0	30.4
13-May	64.0	52.1	55.6	41.8	35.0	56.7	57.9	44.4	32.6
20-May	66.0	54.3	56.8	41.8	34.0	58.8	60.2	45.7	32.7
27-May	68.0	57.1	58.6	44.8	37.0	60.9	61.4	49.7	37.1
3-Jun	72.0	60.9	60.1	45.9	37.0	69.3	64.9	52.7	38.8
10-Jun	73.0	61.5	61.0	47.3	41.0	74.9	69.9	54.7	40.1
17-Jun	73.0	60.7	61.9	47.9	42.0	74.9	65.4	56.2	40.3
24-Jun	73.0	61.8	63.4	48.8	43.0	74.2	64.8	58.2	42.6
1-Jul	73.0	60.0	64.4	50.0	44.0	74.2	68.4	59.7	43.4
8-Jul	74.0	61.9	65.5	50.8	45.0	77.0	66.6	63.1	46.7
15-Jul	72.0	62.1	65.1	51.9	46.0	80.5	66.0	64.9	48.8
22-Jul	75.0	62.3	65.7	51.3	46.0	79.8	65.4	64.9	48.2
29-Jul	74.0	63.0	67.2	52.3	45.0	84.7	70.2	68.9	50.8
5-Aug	75.0	63.8	66.3	51.9	46.0	85.4	66.5	66.5	49.9
12-Aug	75.0	63.2	66.0	51.1	44.0	85.4	68.2	65.2	48.1
19-Aug	75.0	62.8	65.9	51.6	45.0	84.7	64.9	66.5	49.4
26-Aug	73.0	62.7	65.0	50.9	43.0	81.9	67.4	64.3	48.0
2-Sep	72.0	63.0	63.9	49.6	41.0	81.2	67.7	62.8	46.0
9-Sep	68.0	60.2	61.8	48.8	41.0	76.3	63.7	60.9	44.3
16-Sep	68.0	59.9	60.9	47.2	36.5	75.6	63.3	57.3	41.4
23-Sep	66.0	58.5	59.5	48.0	39.0	72.1	61.8	57.5	42.3
30-Sep	65.0	58.6	58.2	45.1	34.0	71.4	61.3	55.5	39.8
7-Oct	63.0	57.0	57.1	45.8	36.0	70.7	61.3	55.4	40.1
14-Oct	64.0	57.4	55.9	43.1	32.0	67.2	60.3	51.5	37.0
21-Oct	61.0	56.6	53.4	41.3	28.0	66.5	59.3	48.3	34.3
28-Oct	61.0	54.9	53.2	42.1	31.0	63.7	59.0	48.2	34.3
4-Nov	59.0	56.3	51.3	39.8	28.0	62.3	57.2	45.8	31.9
11-Nov	57.0	53.0	49.7	39.2	29.0	57.4	55.1	44.2	31.6
18-Nov	55.0	52.4	47.5	36.8	26.0	56.0	54.0	40.8	28.5
25-Nov	56.0	52.8	46.7	36.5	25.0	58.1	55.0	40.0	27.6
2-Dec	55.0	52.2	44.9	34.2	19.0	57.4	55.4	37.8	25.8
9-Dec	53.0	49.8	44.7	35.6	21.0	53.2	52.6	37.7	26.8
16-Dec	54.0	50.7	44.0	34.5	16.0	54.6	52.4	37.4	25.9
23-Dec	54.0	50.7	43.4	34.3	16.0	53.9	53.2	37.1	25.5
31-Dec	54.0	51.3	43.5	34.6	14.0	52.5	53.6	36.9	25.6

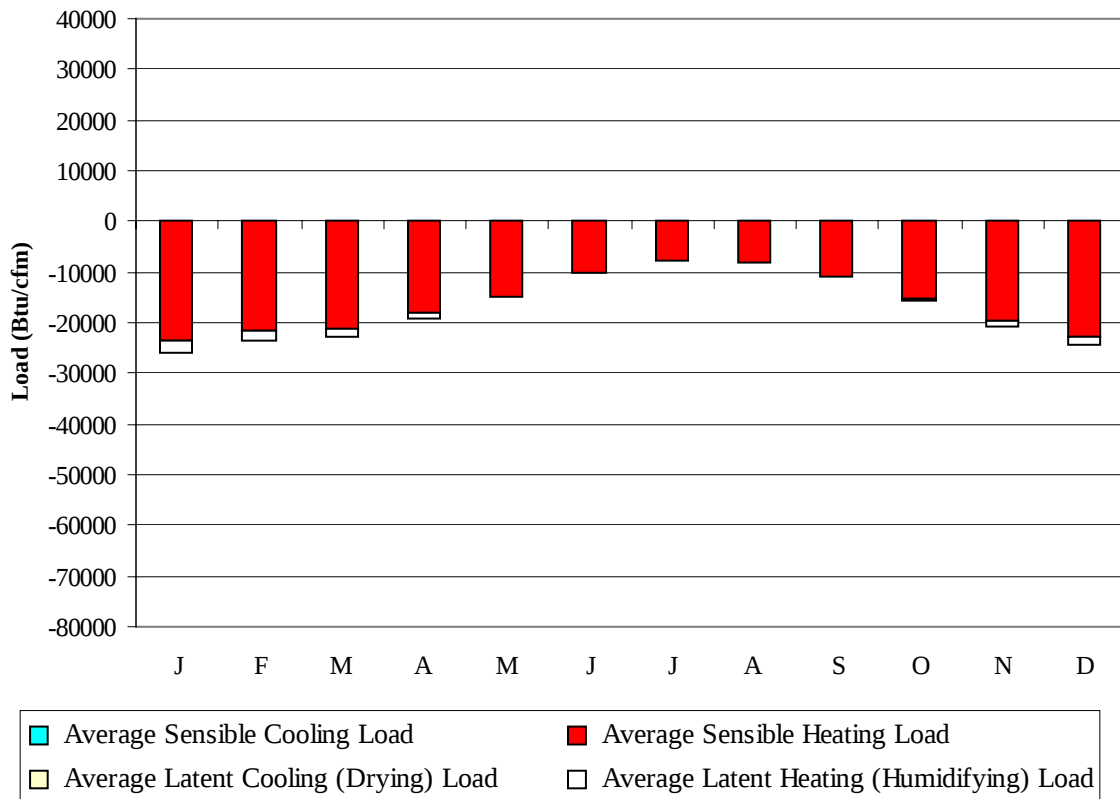


	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	822
FEB	0	743
MAR	0	729
APR	0	610
MAY	2	476
JUN	9	300
JUL	15	213
AUG	15	226
SEP	2	338
OCT	0	502
NOV	0	670
DEC	0	786
ANN	43	6415

EDINBURGH, UK

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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 Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	0	-23711	0	-2063
FEB	0	-21458	0	-1967
MAR	0	-21313	0	-1572
APR	0	-18135	0	-994
MAY	2	-14725	0	-315
JUN	10	-9981	6	-20
JUL	11	-7707	30	0
AUG	22	-8067	65	0
SEP	0	-11061	2	-30
OCT	0	-15414	0	-235
NOV	0	-19697	0	-1017
DEC	0	-22769	0	-1668
ANN	45	-194038	103	-9881

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

No Solar Radiation
Data Available

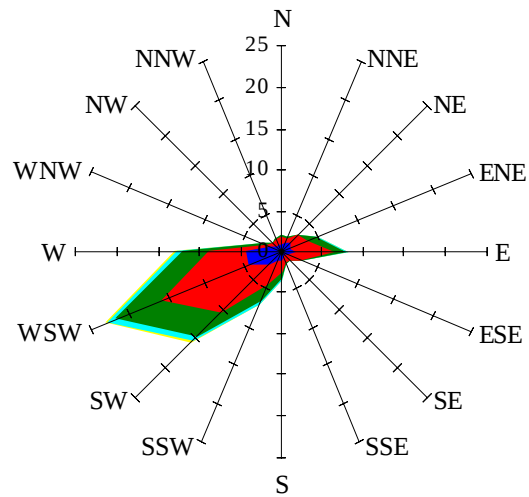


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

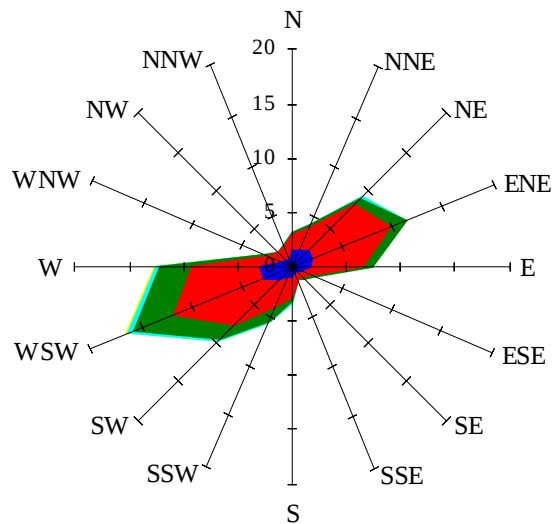
Labels of Percent Frequency on North Axis



Percent Calm = 8.89

Wind Summary - March, April, and May

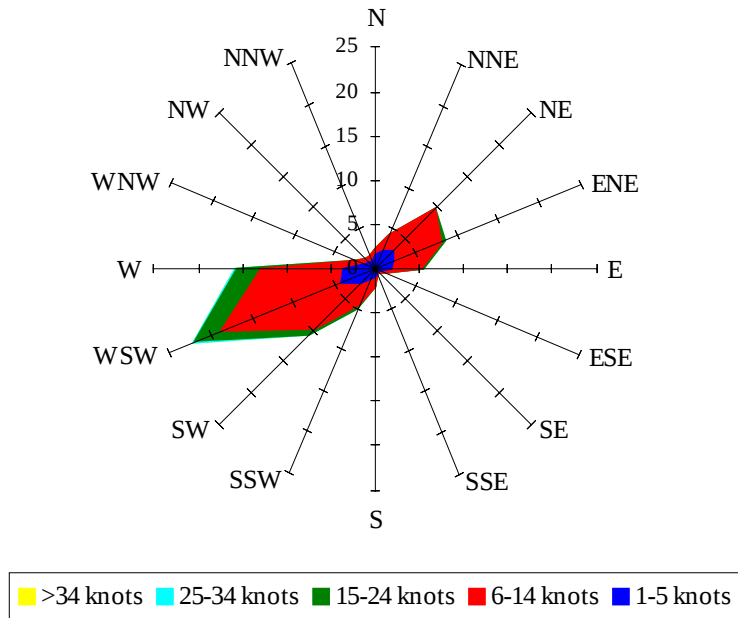
Labels of Percent Frequency on North Axis



Percent Calm = 5.74

Wind Summary - June, July, and August

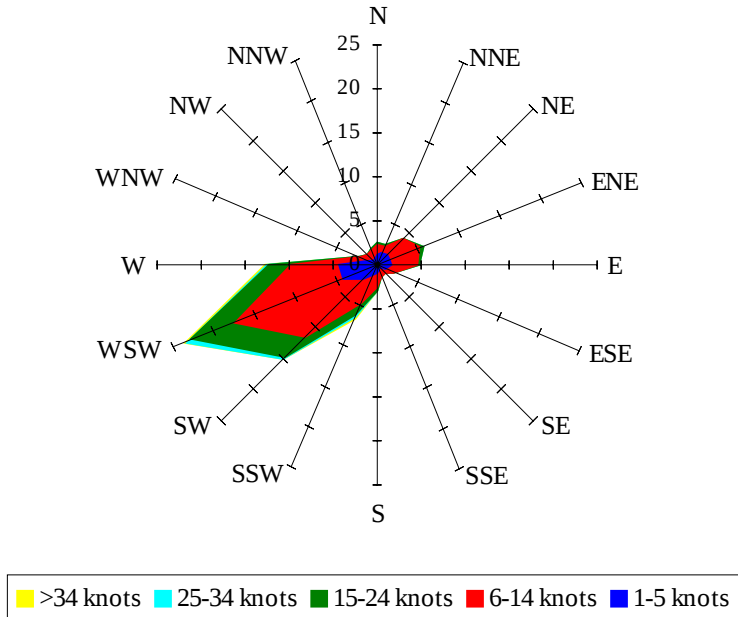
Labels of Percent Frequency on North Axis



Percent Calm = 5.77

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 8.36