

ABERDEEN, UK

Latitude = 57.20 N

Longitude = 2.22 W

Period of Record = 1973 to 1996

WMO No. 030910

Elevation = 213 feet

Average Pressure = 29.60 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	77	65	74	11.3	S
0.4% Occurrence	72	63	70	10.9	SSE
1.0% Occurrence	68	60	66	11.0	S
2.0% Occurrence	66	59	64	10.8	S
Mean Daily Range	11	-	-	-	-
97.5% Occurrence	30	29	21	7.4	WNW
99.0% Occurrence	27	26	19	5.1	N
99.6% Occurrence	22	22	15	2.7	N
Median of Extreme Lows	14	14	10	1.3	N
	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	68	75	87	9.8	S
0.4% Occurrence	64	70	78	9.8	S
1.0% Occurrence	62	67	74	9.6	S
2.0% Occurrence	60	64	69	9.5	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	91	73	0.61	7.5	E
0.4% Occurrence	80	67	0.54	8.3	S
1.0% Occurrence	75	64	0.50	8.2	S
2.0% Occurrence	71	62	0.47	8.9	S
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	1	0	6

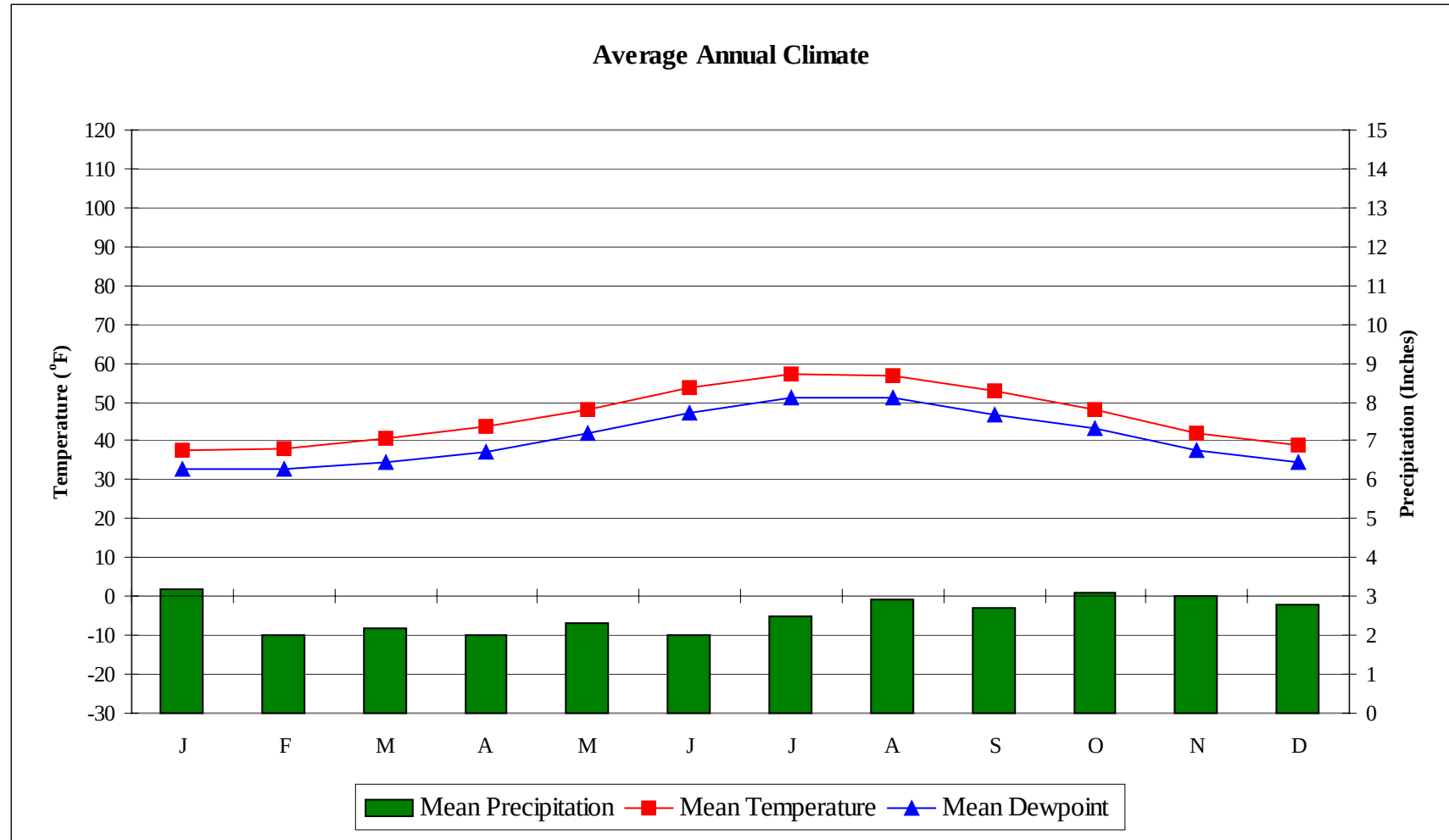
Other Site Data

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 (#)
49.0	N/A	N/A	38

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

ABERDEEN, UK

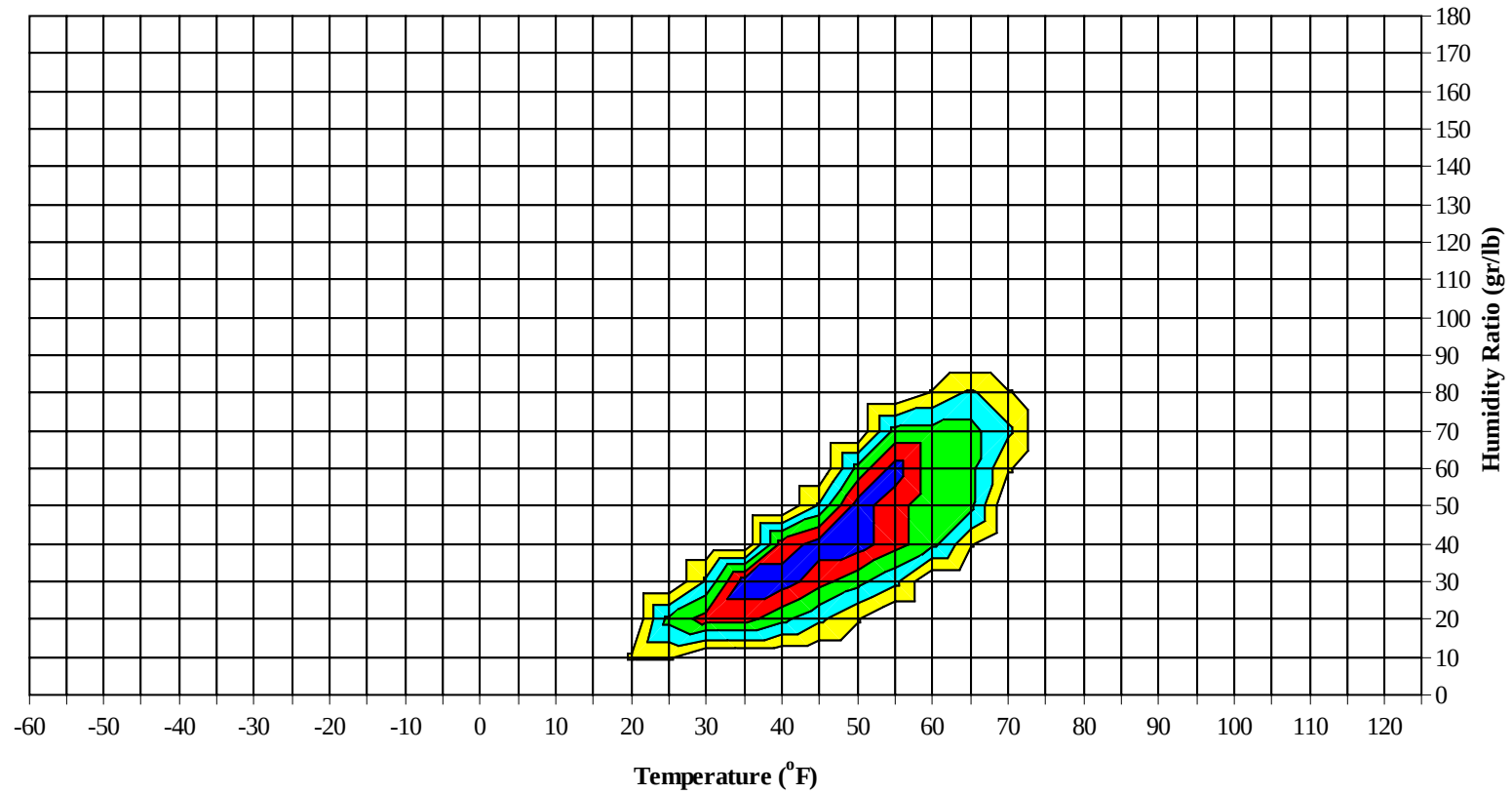
WMO No. 030910



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WMO No. 030910

Long Term Psychrometric Summary

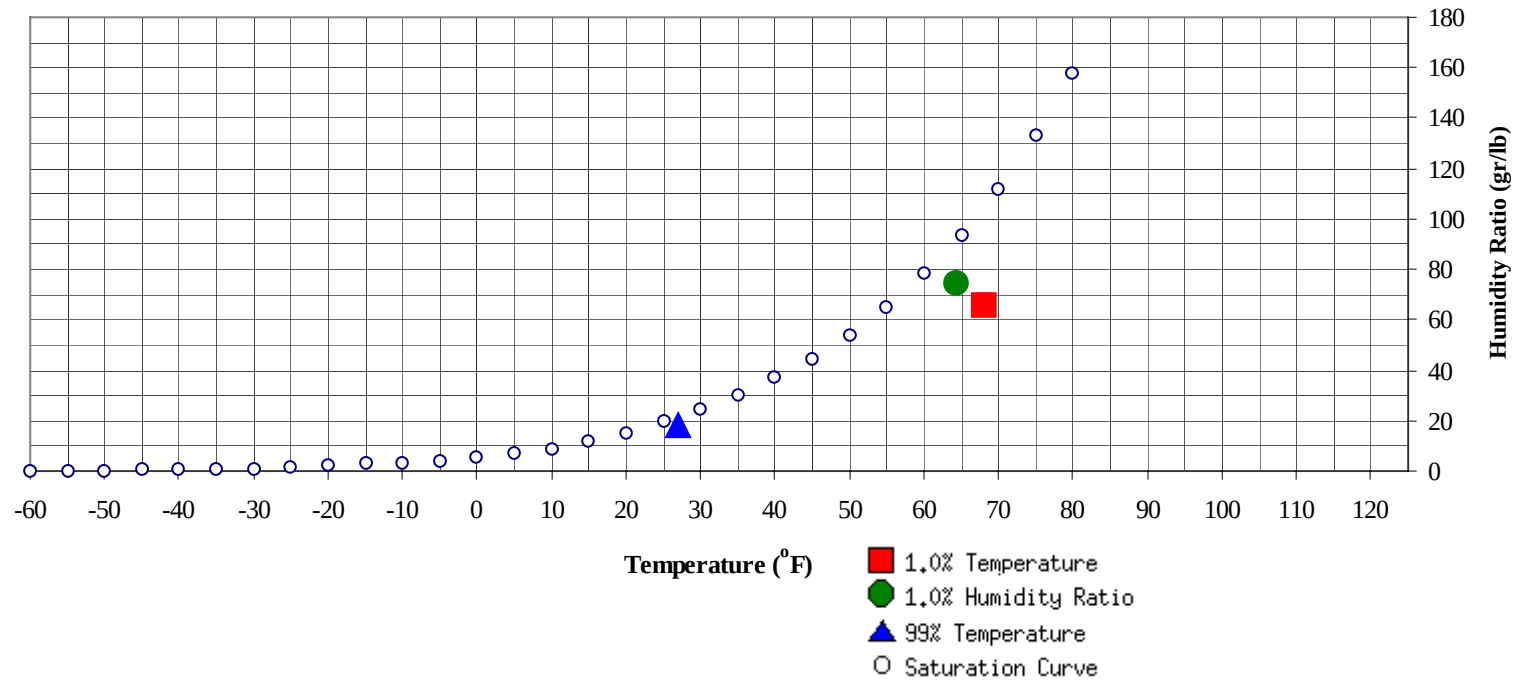


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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	18.2	9.3		74.9	64.3	60.9	58.9	27.1

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	68	65.6	60.1	26.5

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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							0		0	54.2		0		0	51.8
55 / 59	1	2	1	4	50.1	0	3	0	3	50.2		1	0	1	52.6
50 / 54	6	9	8	23	47.3	6	12	7	25	46.7	0	9	2	11	49.9
45 / 49	23	35	22	80	43.7	6	36	17	65	42.8	6	27	13	46	46.5
40 / 44	47	61	53	161	39.6	12	63	54	162	39.6	22	65	36	123	42.6
35 / 39	89	92	93	273	35.1	45	84	84	238	35.0	59	78	77	214	39.4
30 / 34	56	38	54	148	31.0	80	73	50	140	31.0	99	56	86	241	35.3
25 / 29	17	7	12	36	26.3	58	32	8	26	26.2	51	11	32	94	31.2
20 / 24	5	3	2	10	21.4	14	4	2	7	21.3	8	0	2	10	26.4
15 / 19	2	2	2	6	16.9	4	1	1	3	17.1	2	0	0	2	22.1
10 / 14	1	0	1	2	11.6	2	0	0	1	11.6	1		0	1	16.4
5 / 9	1	0	0	1	6.7	1	0	0	1	7.0	0			0	13.0
0 / 4	1	0	0	1	1.2										
-5 / -1	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		
80 / 84															
75 / 79							0		0	65.0		1	0	1	64.0
70 / 74			0	0	59.0		2	0	2	59.2		10	2	12	61.7
65 / 69			1	0	57.3		6	1	7	56.9	1	20	6	27	59.1
60 / 64	0	7	1	8	53.6	1	22	6	29	54.3	6	47	22	75	55.7
55 / 59	1	21	7	29	50.3	7	55	21	83	51.0	34	77	57	168	52.5
50 / 54	9	51	22	82	46.6	33	74	56	164	47.9	93	68	96	257	49.3
45 / 49	37	81	58	177	43.2	92	74	100	267	44.4	81	15	48	144	45.3
40 / 44	85	58	86	229	39.8	75	13	49	137	40.6	19	1	8	28	41.0
35 / 39	74	18	53	146	35.6	31	1	13	45	36.2	6		1	7	36.9
30 / 34	30	2	12	44	31.6	9		1	10	32.0	1			1	33.8
25 / 29	4	0	0	4	27.1	0			0	27.9					
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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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	0	0	67.1		1	0	1	66.2					
75 / 79		3	0	3	63.9		6	1	7	65.5		0		0	65.3
70 / 74	0	19	4	23	62.1	0	15	4	19	63.0		4	0	4	62.4
65 / 69	2	36	13	51	59.9	1	35	10	46	59.8		10	2	12	59.5
60 / 64	17	82	46	145	56.8	16	84	44	144	56.9	4	41	12	57	56.0
55 / 59	84	86	104	274	53.9	76	86	101	263	54.0	37	94	63	194	53.1
50 / 54	110	21	71	202	50.4	107	22	75	204	50.3	90	76	96	262	49.6
45 / 49	32	1	9	42	46.0	40	0	12	52	46.0	72	14	52	138	45.0
40 / 44	3		0	3	41.8	5		1	6	41.8	24	1	12	37	40.9
35 / 39	0			0	38.3	2		0	2	37.0	11	0	2	13	36.8
30 / 34						0			0	32.8	3	0	0	3	32.4
25 / 29											0			0	28.0
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															

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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	09	17			01	09	17			01	09	17		
	To 08	To 16	To 00			To 08	To 16	To 00			To 08	To 16	To 00		
80 / 84															
75 / 79															
70 / 74	0 0 63.0														
65 / 69	1 0 1 59.9														
60 / 64	1	10	2	13	56.6	1	0	1	53.8	0	0	54.0			
55 / 59	11	44	18	73	52.7	2	8	2	12	52.4	1	2	1	4	51.2
50 / 54	65	101	79	245	49.4	19	36	19	74	48.6	12	16	13	41	47.7
45 / 49	79	65	83	227	44.6	51	74	66	191	44.3	34	42	35	111	44.1
40 / 44	48	19	43	110	40.2	65	65	64	194	39.8	55	70	61	186	39.8
35 / 39	31	6	22	59	36.3	63	39	61	163	35.6	82	79	80	241	35.3
30 / 34	11	1	2	14	31.8	31	14	23	68	31.3	42	28	41	111	31.1
25 / 29	2	0		2	27.3	6	2	4	12	26.9	14	7	13	34	26.2
20 / 24						1	1	1	3	21.9	3	2	3	8	21.8
15 / 19						1	0	0	1	16.9	2	1	1	4	16.7
10 / 14						0	0	0	0	11.0	1	0	1	2	11.7
5 / 9						0		0	0	7.1	1	0	0	1	6.7
0 / 4											0		0	0	1.7
-5 / -1															

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WMO No. 030910

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

Period of Record = 1973 to 1996

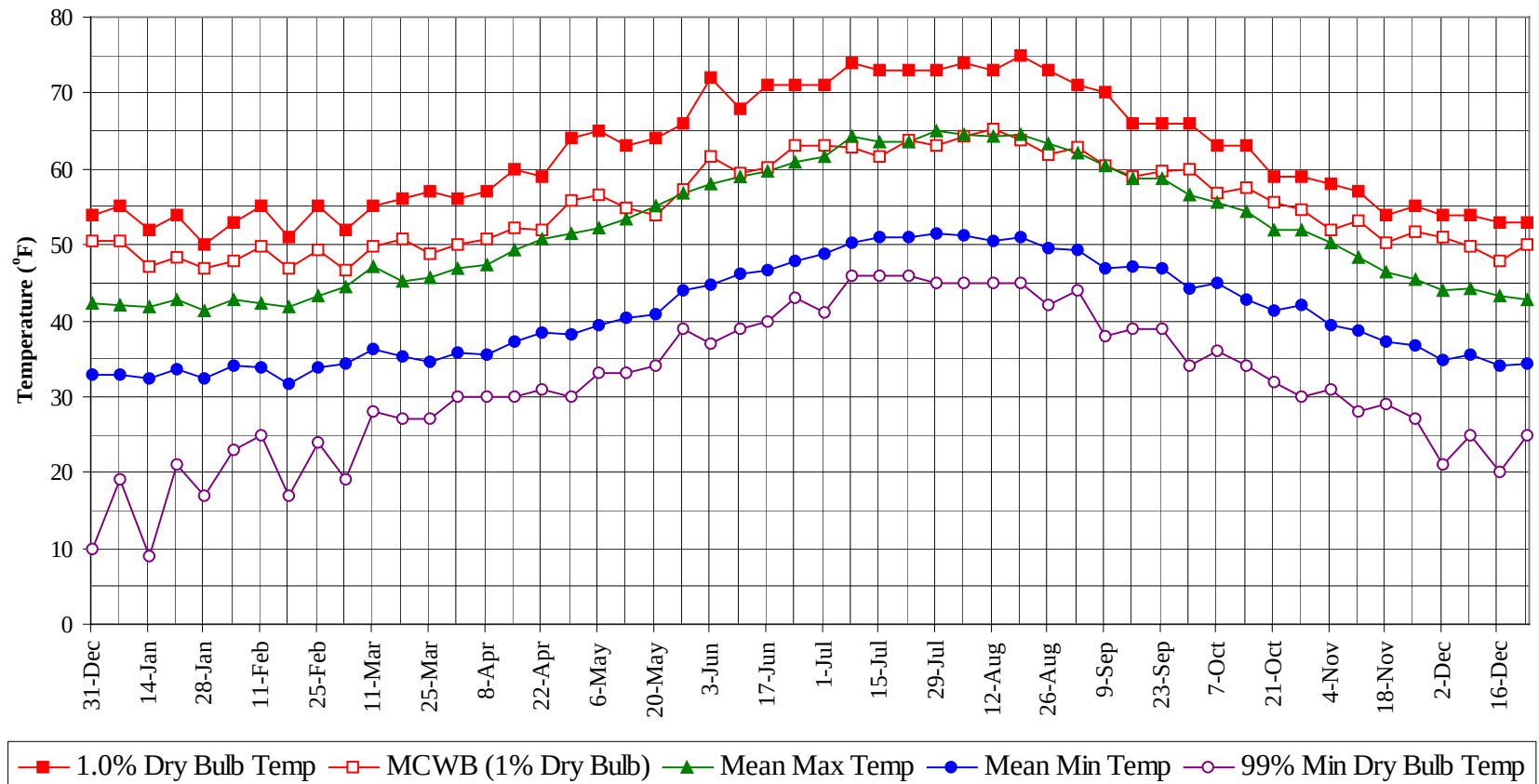
Temperature Range (°F)	Annual Totals				M C W B (°F)
	Hour Group (LST)			Total Obs	
	01 To 08	09 To 16	17 To 00		
80 / 84		1	0	1	66.5
75 / 79		10	1	11	64.8
70 / 74	0	51	10	61	62.2
65 / 69	5	110	33	148	59.5
60 / 64	46	296	133	475	56.3
55 / 59	253	487	376	1117	53.1
50 / 54	555	511	556	1621	49.1
45 / 49	576	503	539	1617	44.2
40 / 44	532	428	507	1466	39.9
35 / 39	569	365	498	1431	35.4
30 / 34	291	126	215	632	31.2
25 / 29	66	20	39	125	26.4
20 / 24	15	6	7	28	21.6
15 / 19	7	4	4	15	16.9
10 / 14	3	1	2	6	11.6
5 / 9	2	1	1	4	6.8
0 / 4	1	0	0	1	1.4
-5 / -1	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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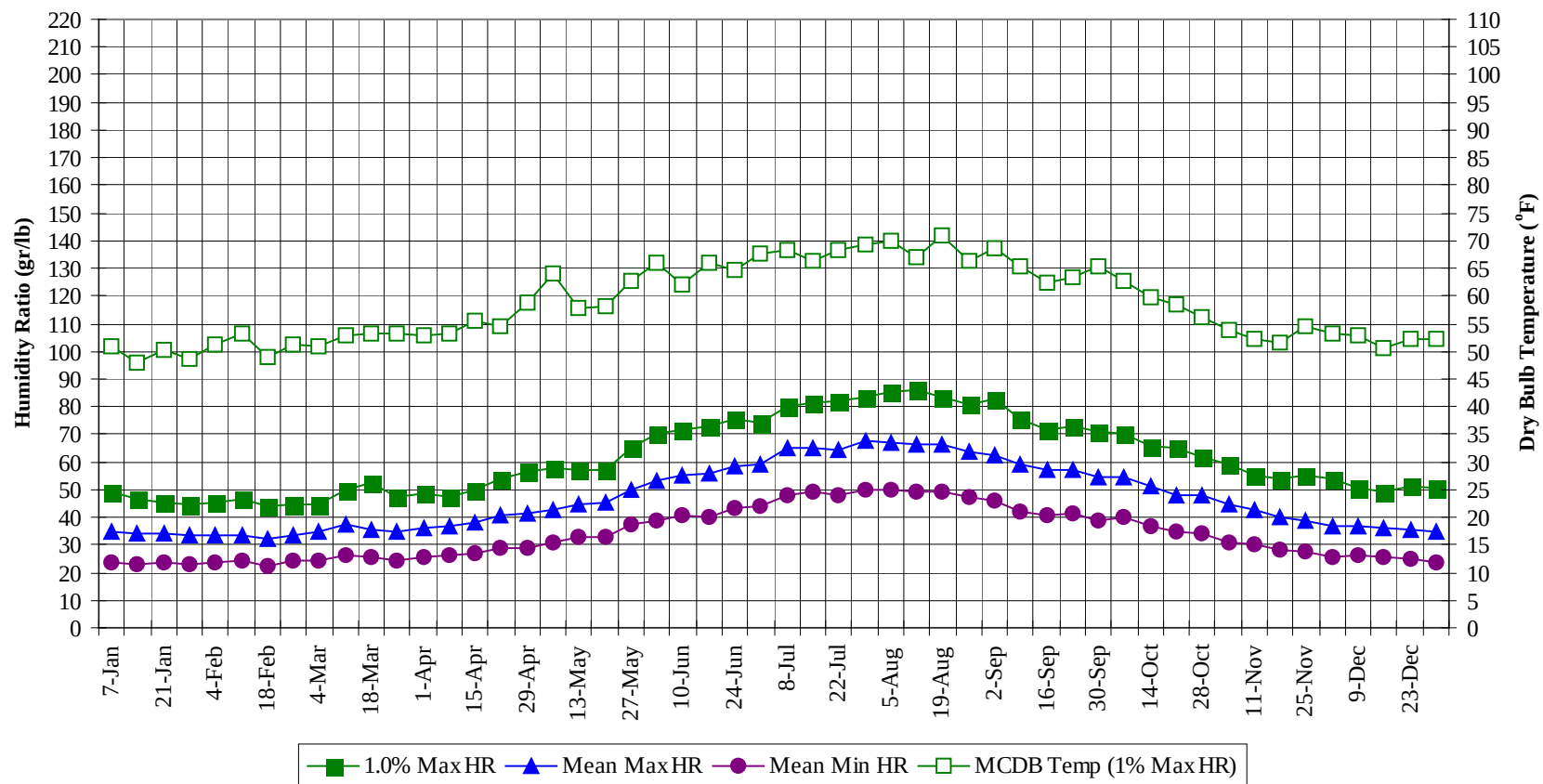
Annual Summary of Temperatures



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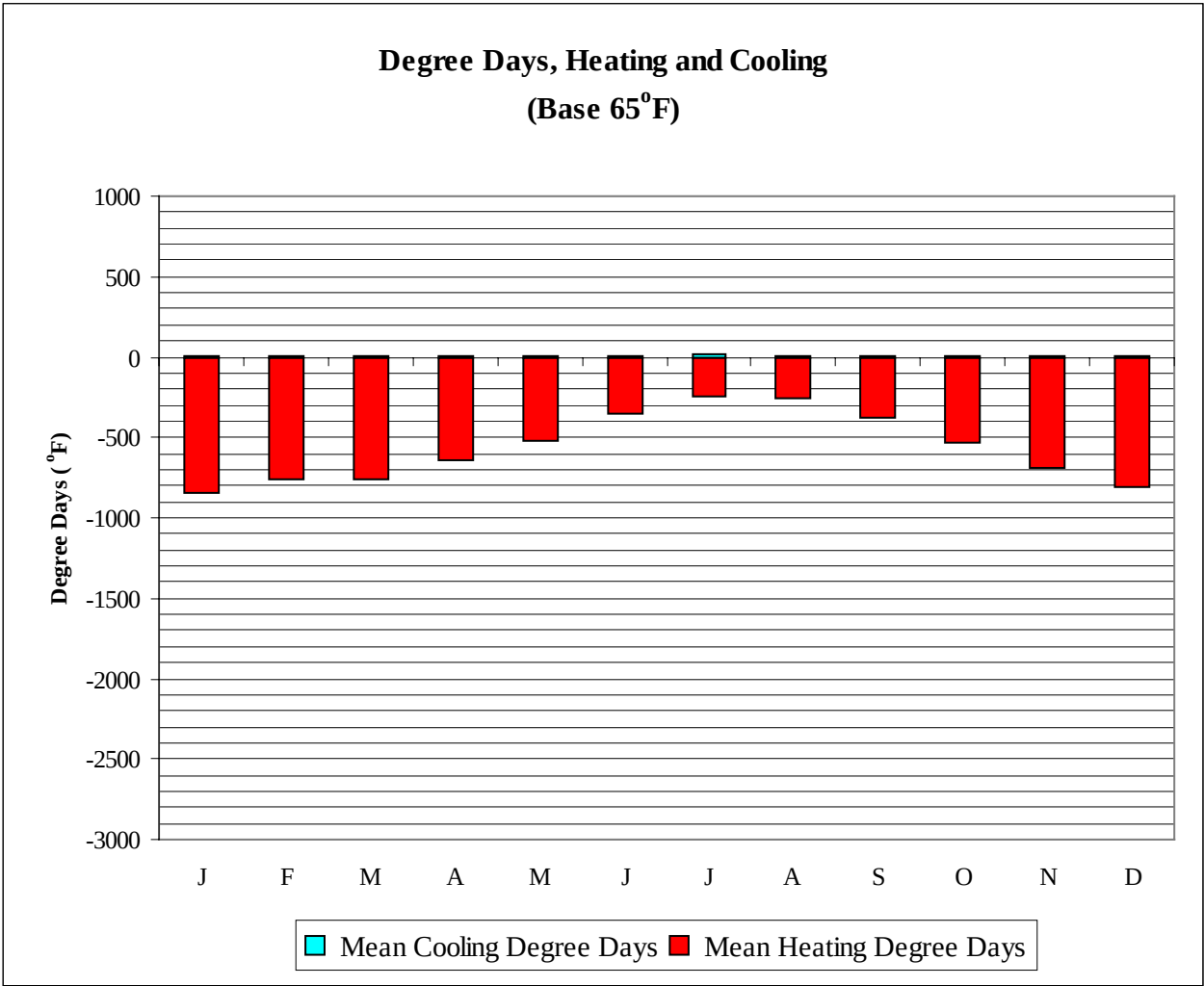
WMO No. 030910

Long Term Humidity and Dry Bulb Temperature Summary



ABERDEEN, UK**WMO No. 030910****Long Term Dry Bulb Temperature and Humidity Summary**

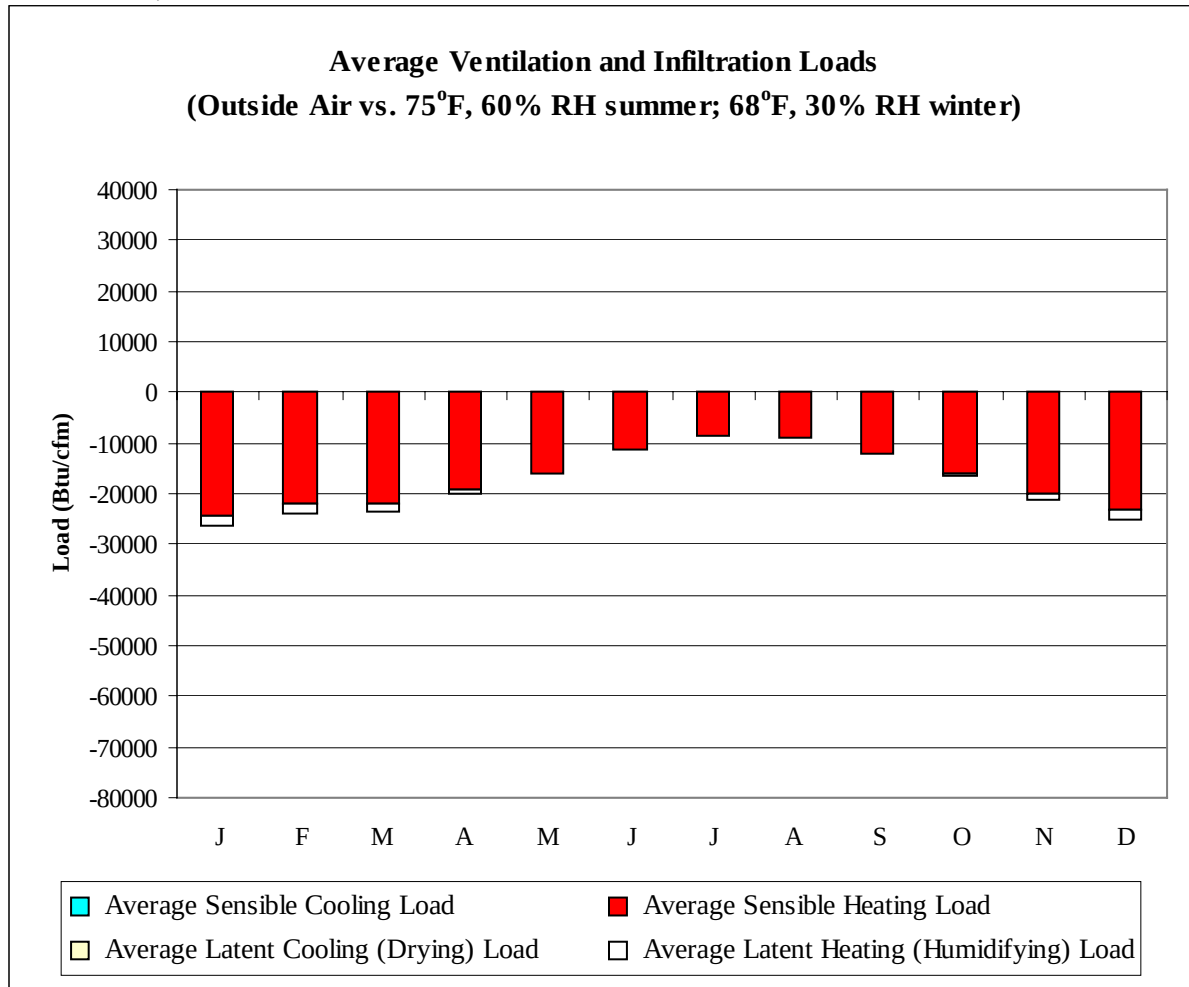
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	55.0	50.4	42.0	33.0	19.0	49.0	50.9	34.8	23.5
14-Jan	52.0	47.3	41.9	32.3	9.0	46.9	48.1	34.0	22.8
21-Jan	54.0	48.4	42.7	33.7	21.0	45.5	50.4	34.4	23.9
28-Jan	50.0	47.0	41.4	32.4	17.0	44.8	48.5	33.3	23.1
4-Feb	53.0	47.9	42.8	34.1	23.0	45.5	51.4	33.7	23.8
11-Feb	55.0	49.8	42.2	33.8	25.0	46.9	53.2	33.5	24.2
18-Feb	51.0	47.0	41.8	31.7	17.0	44.1	49.1	32.3	22.2
25-Feb	55.0	49.3	43.4	33.9	24.0	44.8	51.2	33.4	24.1
4-Mar	52.0	46.7	44.5	34.2	19.0	44.8	51.0	34.6	24.5
11-Mar	55.0	49.7	47.2	36.2	28.0	49.7	52.7	37.4	26.0
18-Mar	56.0	50.7	45.3	35.2	27.0	52.5	53.3	35.6	25.5
25-Mar	57.0	48.9	45.6	34.7	27.0	47.6	53.1	34.7	24.1
1-Apr	56.0	49.9	47.0	35.8	30.0	48.3	52.8	36.1	25.7
8-Apr	57.0	50.6	47.4	35.4	30.0	47.6	53.3	36.6	26.5
15-Apr	60.0	52.3	49.4	37.2	30.0	49.7	55.4	38.3	27.2
22-Apr	59.0	52.1	50.7	38.4	31.0	53.9	54.7	40.6	28.9
29-Apr	64.0	55.7	51.4	38.3	30.0	56.7	58.7	41.2	29.0
6-May	65.0	56.6	52.1	39.5	33.0	58.1	64.0	42.5	30.7
13-May	63.0	54.9	53.3	40.4	33.0	57.4	57.7	44.7	32.7
20-May	64.0	53.9	55.0	40.9	34.0	57.4	58.0	45.5	32.8
27-May	66.0	57.2	56.8	44.1	39.0	65.1	62.7	50.1	37.4
3-Jun	72.0	61.8	58.0	44.8	37.0	70.0	66.1	53.0	39.0
10-Jun	68.0	59.4	58.9	46.2	39.0	71.4	62.0	54.9	40.8
17-Jun	71.0	60.1	59.8	46.7	40.0	72.8	66.0	55.9	40.4
24-Jun	71.0	63.0	60.9	47.9	43.0	75.6	64.7	58.6	43.6
1-Jul	71.0	63.0	61.6	48.8	41.0	74.2	67.6	59.3	43.8
8-Jul	74.0	62.9	64.3	50.4	46.0	79.8	68.4	64.9	47.8
15-Jul	73.0	61.7	63.5	51.0	46.0	81.2	66.5	64.8	48.9
22-Jul	73.0	63.7	63.6	50.9	46.0	81.9	68.3	64.3	48.0
29-Jul	73.0	63.0	65.0	51.5	45.0	83.3	69.4	67.9	50.2
5-Aug	74.0	64.3	64.6	51.2	45.0	85.4	70.0	67.0	49.9
12-Aug	73.0	65.2	64.3	50.4	45.0	86.1	66.9	66.0	49.2
19-Aug	75.0	63.9	64.6	51.0	45.0	83.3	70.9	66.4	49.3
26-Aug	73.0	61.9	63.2	49.7	42.0	80.5	66.3	63.9	47.4
2-Sep	71.0	62.9	62.2	49.2	44.0	82.6	68.7	62.6	45.7
9-Sep	70.0	60.5	60.3	47.0	38.0	75.6	65.2	59.1	42.1
16-Sep	66.0	59.1	58.8	47.0	39.0	71.4	62.4	56.9	40.9
23-Sep	66.0	59.7	58.7	46.9	39.0	72.8	63.4	57.2	41.6
30-Sep	66.0	60.0	56.6	44.2	34.0	70.7	65.3	54.8	38.6
7-Oct	63.0	56.8	55.6	45.1	36.0	70.0	62.6	54.7	39.8
14-Oct	63.0	57.4	54.4	42.7	34.0	65.8	59.8	51.0	36.5
21-Oct	59.0	55.7	51.9	41.4	32.0	65.1	58.6	47.7	34.6
28-Oct	59.0	54.7	52.0	42.0	30.0	61.6	56.2	48.0	34.3
4-Nov	58.0	51.9	50.2	39.4	31.0	58.8	53.9	44.9	31.2
11-Nov	57.0	53.2	48.4	38.6	28.0	55.3	52.3	42.8	30.5
18-Nov	54.0	50.2	46.4	37.3	29.0	53.9	51.5	39.9	28.4
25-Nov	55.0	51.7	45.5	36.8	27.0	55.3	54.6	38.8	27.3
2-Dec	54.0	51.0	44.1	34.7	21.0	53.9	53.2	37.1	25.9
9-Dec	54.0	49.7	44.3	35.6	25.0	50.4	52.8	37.1	26.4
16-Dec	53.0	47.9	43.3	34.1	20.0	49.0	50.5	36.4	25.5
23-Dec	53.0	50.0	42.7	34.4	25.0	51.1	52.3	35.8	25.0
31-Dec	54.0	50.4	42.4	32.8	10.0	50.4	52.1	34.8	23.6



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	845
FEB	0	759
MAR	0	758
APR	0	646
MAY	1	520
JUN	6	348
JUL	12	251
AUG	11	262
SEP	2	372
OCT	0	529
NOV	0	685
DEC	0	804
ANN	32	6779

ABERDEEN, UK

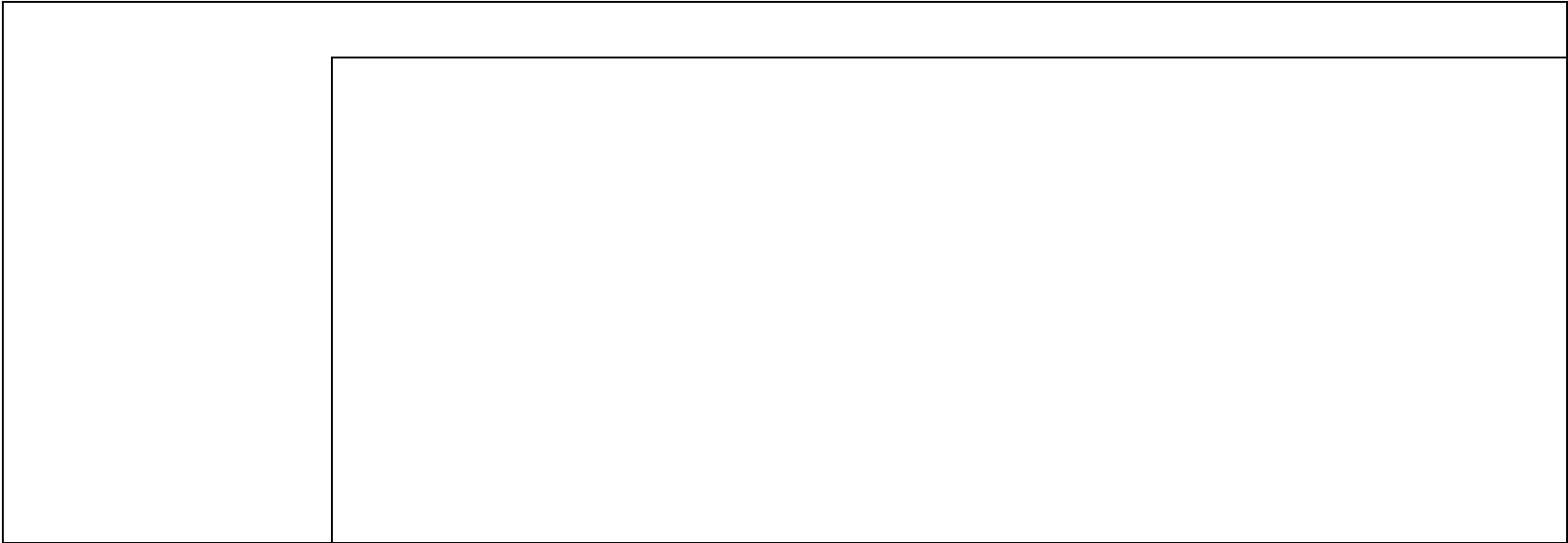
WMO No. 030910



	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	-24318	0	-2189
FEB	0	-21868	0	-1983
MAR	0	-22052	0	-1626
APR	0	-19066	0	-877
MAY	0	-15872	0	-256
JUN	2	-11256	7	-9
JUL	5	-8737	40	0
AUG	14	-9036	62	-1
SEP	0	-11946	5	-26
OCT	0	-16122	0	-203
NOV	0	-20100	0	-976
DEC	0	-23246	0	-1761
ANN	21	-203619	114	-9907

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

No Solar Radiation
Data Available

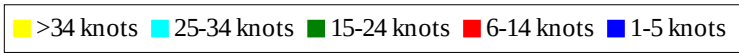
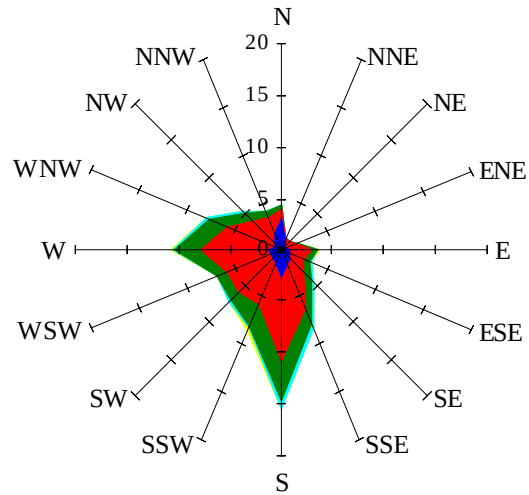


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

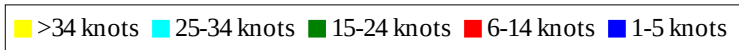
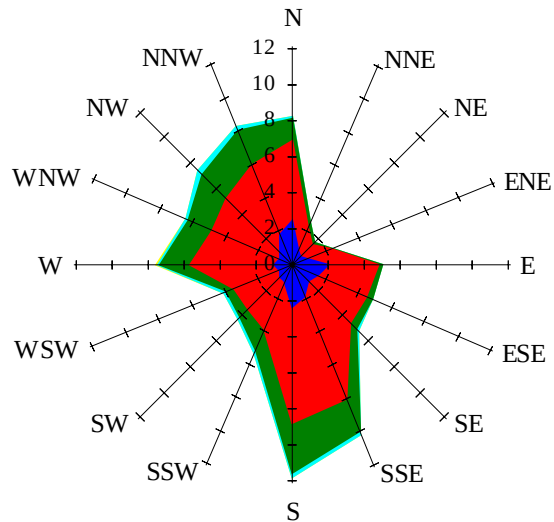
Labels of Percent Frequency on North Axis



Percent Calm = 7.23

Wind Summary - March, April, and May

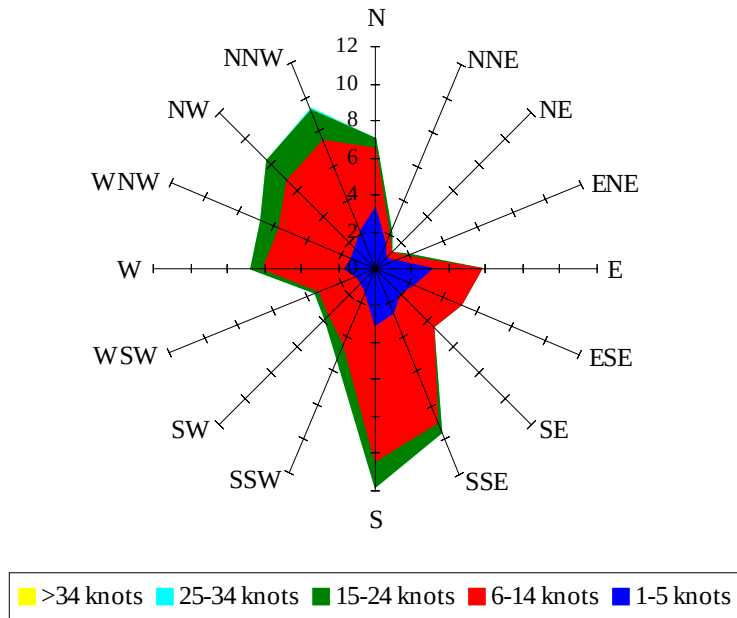
Labels of Percent Frequency on North Axis



Percent Calm = 5.90

Wind Summary - June, July, and August

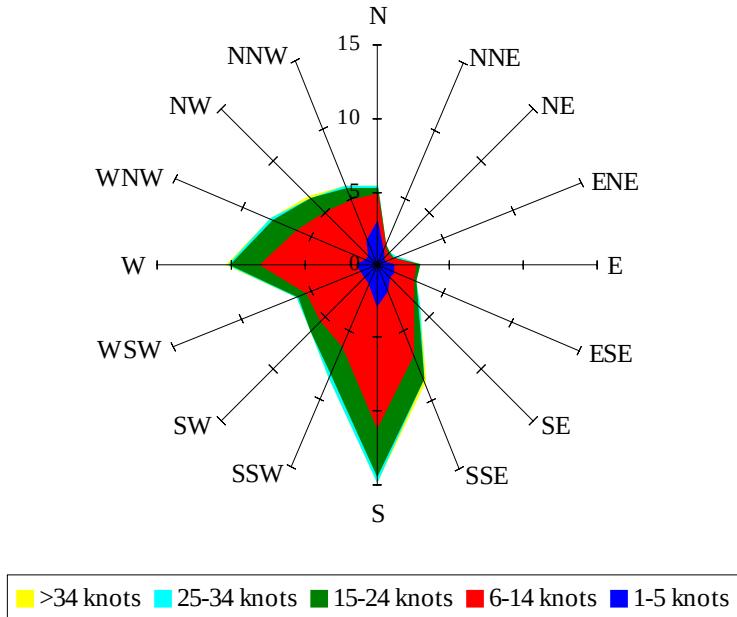
Labels of Percent Frequency on North Axis



Percent Calm = 7.25

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 6.96