

GOLCUK, TURKEY

Latitude = 40.72 N

Longitude = 29.82 E

Period of Record = 1975 to 1996

WMO No. 170670

Elevation = 59 feet

Average Pressure = 29.92 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	96	73	88	5.2	ESE
0.4% Occurrence	91	72	91	4.9	E
1.0% Occurrence	88	72	89	5.3	E
2.0% Occurrence	86	71	90	5.8	E
Mean Daily Range	14	-	-	-	-
97.5% Occurrence	34	32	24	4.4	SSE
99.0% Occurrence	31	30	21	4.0	SE
99.6% Occurrence	29	28	19	4.0	S
Median of Extreme Lows	27	26	17	4.7	SE
	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	77	89	117	5.3	WNW
0.4% Occurrence	75	86	110	5.8	WNW
1.0% Occurrence	73	84	103	5.5	E
2.0% Occurrence	72	82	100	5.5	E
	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	126	82	0.83	4.6	W
0.4% Occurrence	115	82	0.77	4.5	WNW
1.0% Occurrence	110	81	0.73	5.3	E
2.0% Occurrence	104	78	0.69	5.1	E
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		18	607	149	1198

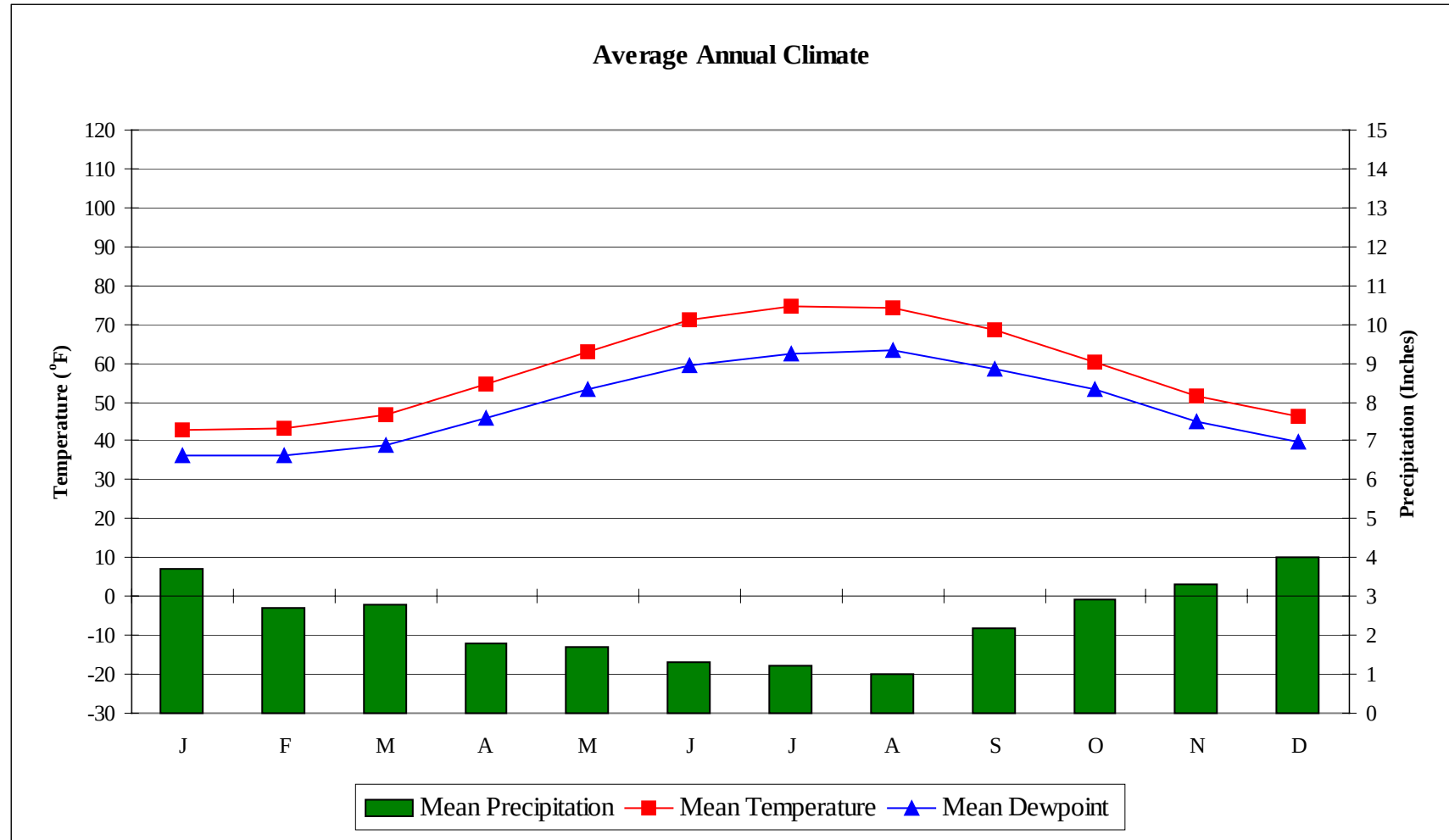
Other Site Data

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
8	N/A	N/A	0.4 + 0.4
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 (#)
60.8	N/A	N/A	8

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

GOLCUK, TURKEY

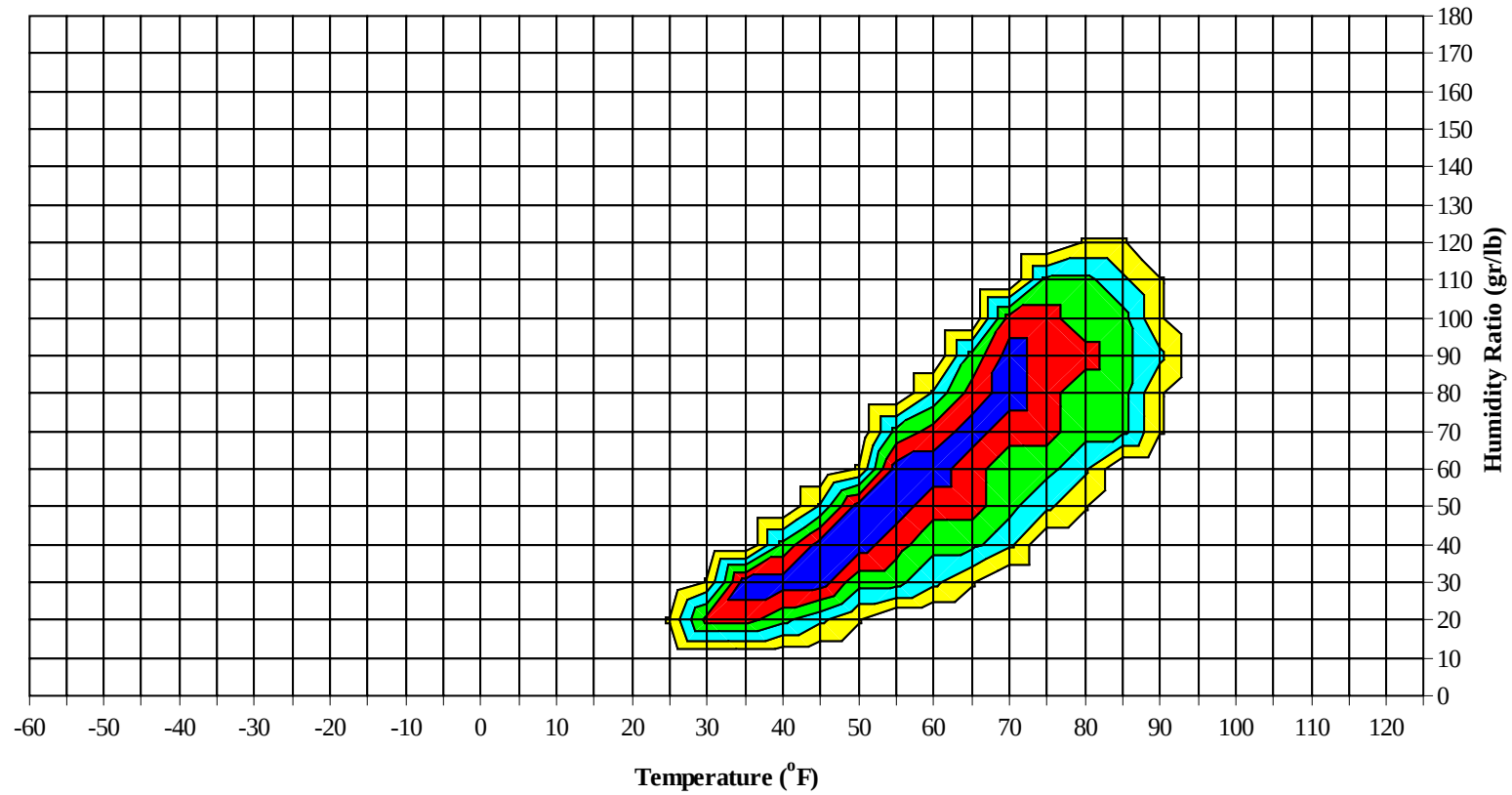
WMO No. 170670



GOLCUK, TURKEY

WMO No. 170670

Long Term Psychrometric Summary

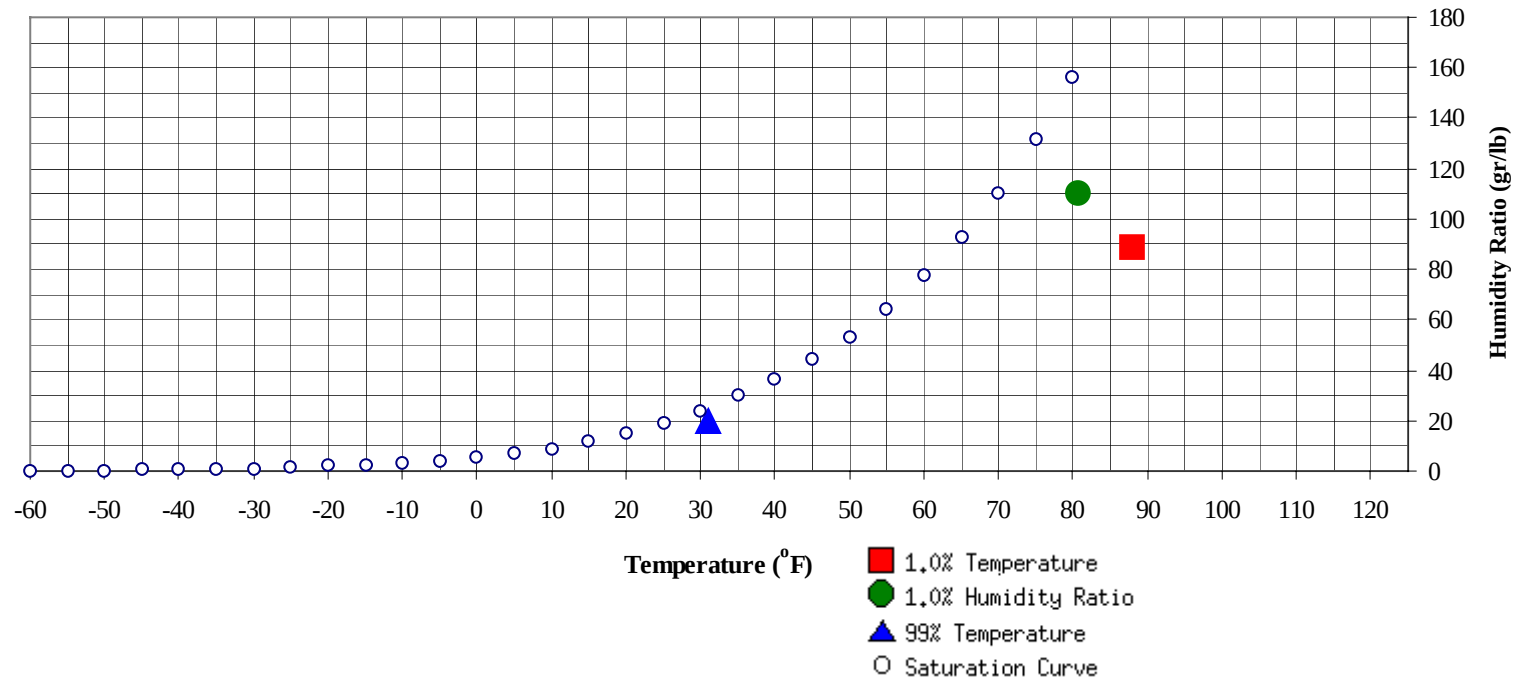


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

GOLCUK, TURKEY

WMO No. 170670

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	31	20.2	10.5		109.9	80.8	73	69.7	36.6

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	88	88.9	71.5	35.1

GOLCUK, TURKEY

WMO No. 170670

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1975 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		
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74	0	0		0	56.8	0	1	1	2	55.0	0	1	0	1	58.8
65 / 69	1	3	1	4	53.7	2	7	3	11	53.2	1	10	5	16	55.3
60 / 64	4	13	6	23	52.0	4	12	8	24	51.9	3	26	13	41	52.7
55 / 59	9	20	15	43	49.1	8	20	14	43	49.2	7	35	28	70	50.3
50 / 54	16	34	30	80	47.0	13	31	27	71	46.8	29	51	44	124	47.4
45 / 49	40	62	52	153	43.7	37	52	47	136	43.6	62	58	64	184	43.9
40 / 44	54	60	61	175	39.5	53	46	51	150	39.7	73	38	56	167	39.7
35 / 39	72	47	62	182	35.5	58	36	42	136	35.2	52	18	28	98	35.7
30 / 34	45	9	19	73	31.1	35	16	25	77	30.6	17	5	8	30	30.9
25 / 29	8	0	2	10	26.1	12	3	5	20	26.1	4	0	1	5	26.1
20 / 24	0			0	20.5	1		1	2	21.5	0		0	0	22.3
15 / 19						1		0	1	17.2					

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.

GOLCUK, TURKEY

WMO No. 170670

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1975 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		
100 / 104						0	0		0	71.5		0	0	0	79.5
95 / 99						0	0	0	0	72.0		3	0	3	73.3
90 / 94						0	1	1	2	69.7		8	4	11	72.6
85 / 89		1	0	1	65.2	0	5	1	6	69.4		25	9	34	70.6
80 / 84	0	1	1	2	63.6	0	13	5	19	66.7	0	64	28	91	68.8
75 / 79	1	11	3	14	61.7	2	43	16	61	64.8	8	71	48	127	66.6
70 / 74	1	23	9	32	59.0	6	67	36	109	62.4	43	45	64	153	64.7
65 / 69	3	34	19	56	56.9	20	46	47	114	60.3	78	16	50	143	62.2
60 / 64	11	49	38	98	54.7	64	42	67	173	57.6	76	8	32	116	58.9
55 / 59	34	52	51	136	52.0	81	22	50	154	54.0	30	1	6	37	55.1
50 / 54	75	41	66	182	48.8	56	7	20	82	49.9	4	0	0	4	50.7
45 / 49	83	25	43	152	44.9	16	1	4	21	45.6	0			0	45.5
40 / 44	27	3	9	39	40.7	3	0	0	3	40.8					
35 / 39	6		1	7	36.5	0			0	36.0					
30 / 34	0			0	32.0										
25 / 29															
20 / 24															
15 / 19															

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GOLCUK, TURKEY

WMO No. 170670

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1975 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		
100 / 104		0		0	72.0										
95 / 99		1	1	2	74.2		3	0	3	73.2		0		0	71.0
90 / 94			17	5	73.0		17	3	20	72.9		3	0	3	71.6
85 / 89	0	45	15	60	71.4		46	20	66	72.0	0	14	2	16	69.5
80 / 84	0	93	42	135	69.9	0	92	36	128	70.3	0	48	15	64	68.7
75 / 79	22	60	71	153	68.3	20	56	74	151	68.8	2	74	31	107	66.2
70 / 74	101	21	80	201	66.3	104	25	77	206	66.6	21	59	65	145	64.6
65 / 69	80	8	27	115	63.2	80	8	30	118	63.4	73	26	64	163	62.4
60 / 64	38	3	7	48	59.4	38	1	9	48	59.7	84	12	42	137	58.8
55 / 59	6		1	7	55.0	5		0	5	55.8	48	4	17	69	54.6
50 / 54	0			0	52.0						12	0	4	16	50.7
45 / 49	0			0	41.0						0			0	47.0
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															

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GOLCUK, TURKEY

WMO No. 170670

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1975 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		
100 / 104															
95 / 99		0		0	70.0										
90 / 94		0	0	0	69.3										
85 / 89		3	0	3	68.5										
80 / 84	0	7	2	8	67.0		0		0	57.0					
75 / 79	1	17	5	22	65.3		3	1	4	59.5					
70 / 74	4	48	18	70	63.2	1	8	2	10	58.5	1	1	0	2	57.6
65 / 69	12	56	37	105	60.7	3	19	7	29	57.3	1	5	3	9	54.6
60 / 64	58	57	74	189	58.2	10	45	23	78	55.7	9	20	10	39	52.9
55 / 59	89	42	69	199	54.5	36	65	56	157	53.1	11	28	19	58	50.7
50 / 54	57	14	34	105	50.1	67	45	63	174	49.2	32	57	47	136	48.3
45 / 49	24	4	9	37	45.4	59	36	48	143	44.7	64	70	73	207	44.3
40 / 44	4		1	5	40.5	38	15	28	81	40.0	56	42	49	147	39.8
35 / 39	0			0	38.0	23	4	11	38	35.9	50	21	39	110	35.7
30 / 34						5		1	6	31.2	22	4	8	34	31.4
25 / 29											3			3	25.8
20 / 24															
15 / 19															

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GOLCUK, TURKEY

WMO No. 170670

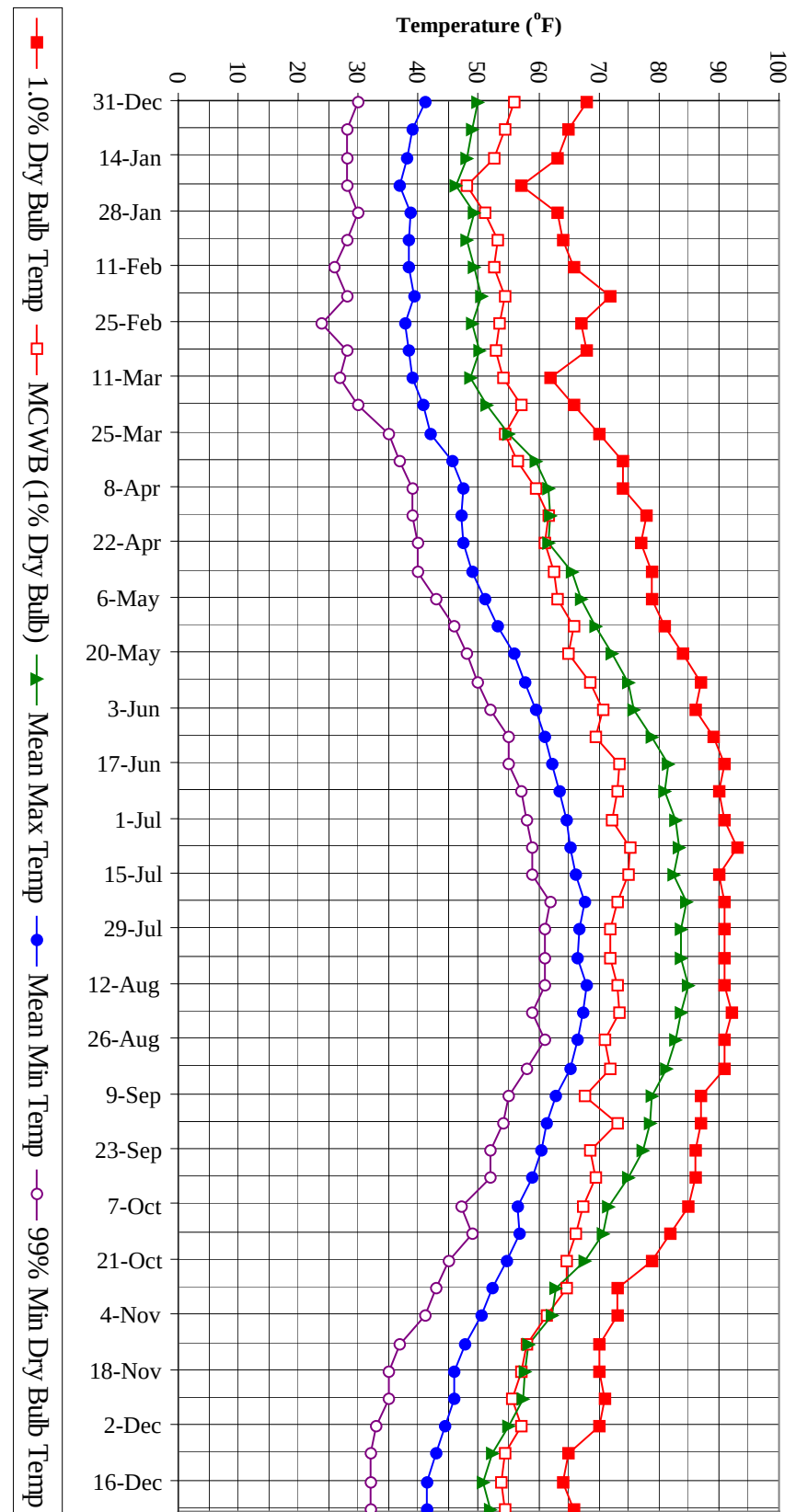
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1975 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		
100 / 104	0	0	0	0	74.8
95 / 99	0	8	2	10	73.3
90 / 94	0	46	12	58	72.7
85 / 89	0	140	48	188	71.2
80 / 84	2	324	131	457	69.4
75 / 79	56	341	252	650	67.2
70 / 74	286	309	360	954	64.9
65 / 69	357	237	293	886	61.5
60 / 64	399	286	333	1018	57.3
55 / 59	365	285	323	973	53.0
50 / 54	359	277	331	967	48.6
45 / 49	382	303	335	1020	44.3
40 / 44	305	201	252	758	39.8
35 / 39	259	124	180	563	35.6
30 / 34	123	34	61	217	31.0
25 / 29	26	4	7	37	26.1
20 / 24	2		1	3	21.6
15 / 19	1		0	1	17.2

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.

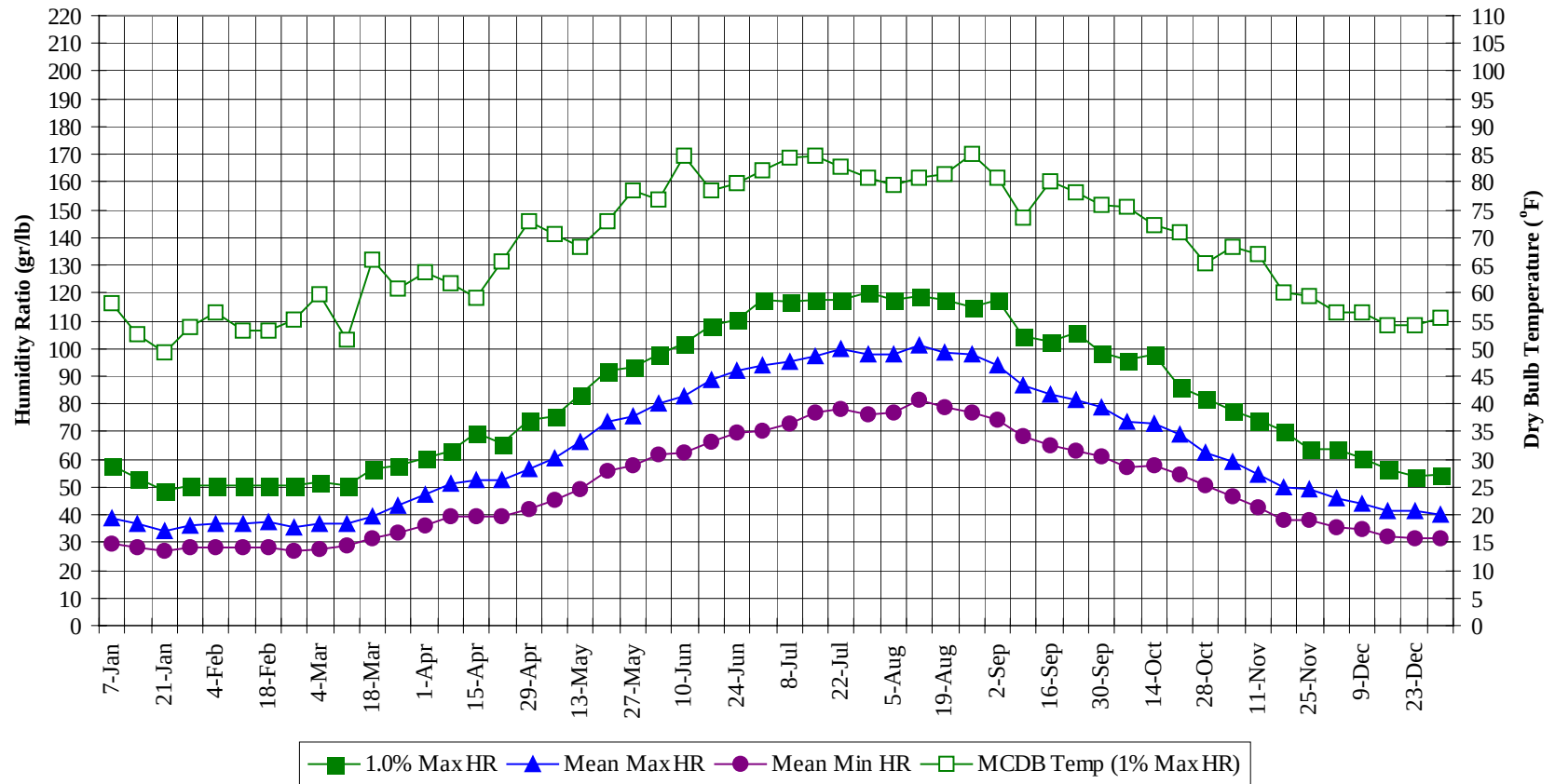
Annual Summary of Temperatures



GOLCUK, TURKEY

WMO No. 170670

Long Term Humidity and Dry Bulb Temperature Summary

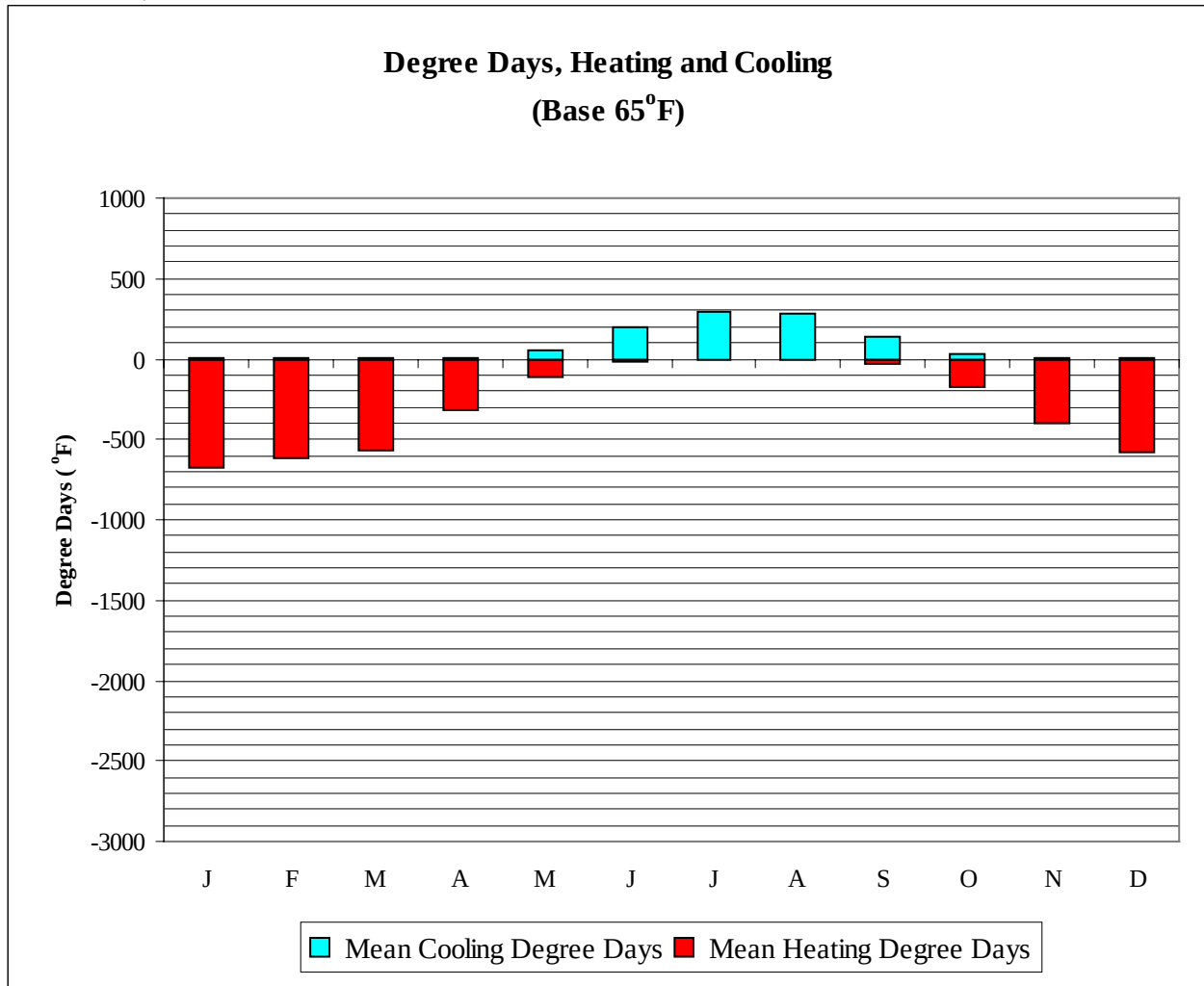


GOLCUK, TURKEY

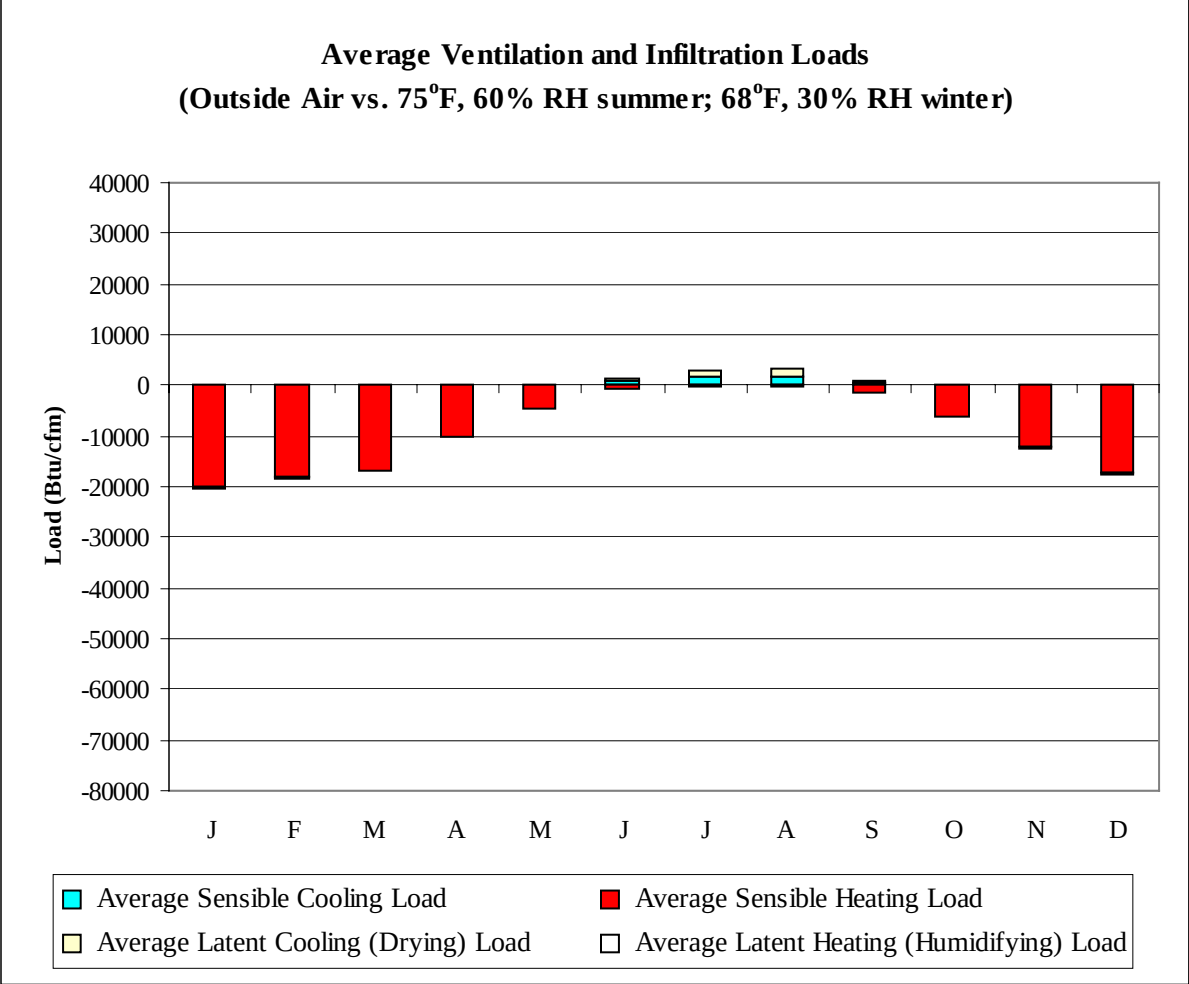
WMO No. 170670

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	65.0	54.5	49.1	39.0	28.0	58.1	58.0	39.0	29.5
14-Jan	63.0	52.7	48.0	37.9	28.0	53.2	52.5	36.7	28.4
21-Jan	57.0	48.0	46.1	36.9	28.0	48.3	49.2	34.2	26.7
28-Jan	63.0	51.2	49.2	38.8	30.0	50.4	54.0	36.4	28.2
4-Feb	64.0	53.3	48.0	38.2	28.0	50.4	56.3	36.7	28.1
11-Feb	66.0	52.6	49.1	38.5	26.0	50.4	53.3	36.7	28.4
18-Feb	72.0	54.3	50.3	39.4	28.0	50.4	53.2	37.3	28.4
25-Feb	67.0	53.3	49.1	37.8	24.0	50.4	55.1	35.6	27.2
4-Mar	68.0	52.8	50.2	38.4	28.0	51.8	59.8	37.1	27.7
11-Mar	62.0	54.0	48.5	39.0	27.0	50.4	51.6	36.5	29.2
18-Mar	66.0	57.0	51.5	40.8	30.0	56.7	66.0	39.2	31.3
25-Mar	70.0	54.4	55.0	42.1	35.0	58.1	60.7	43.2	33.2
1-Apr	74.0	56.5	59.6	45.5	37.0	60.2	63.7	47.3	36.2
8-Apr	74.0	59.5	61.7	47.4	39.0	63.0	61.8	51.3	39.2
15-Apr	78.0	61.8	61.9	47.1	39.0	69.3	59.3	52.3	39.5
22-Apr	77.0	61.0	61.5	47.4	40.0	65.8	65.6	52.4	39.7
29-Apr	79.0	62.6	65.6	48.9	40.0	74.2	73.0	56.8	42.3
6-May	79.0	63.0	67.0	51.1	43.0	75.6	70.6	60.5	45.2
13-May	81.0	65.8	69.5	53.2	46.0	83.3	68.3	66.6	49.5
20-May	84.0	65.0	72.2	56.0	48.0	91.7	72.9	73.4	55.5
27-May	87.0	68.5	74.9	57.8	50.0	93.1	78.3	75.7	57.6
3-Jun	86.0	70.7	75.7	59.6	52.0	98.0	76.8	80.3	61.9
10-Jun	89.0	69.5	78.8	60.9	55.0	101.5	84.7	83.0	62.5
17-Jun	91.0	73.6	81.7	62.3	55.0	108.5	78.5	88.9	66.5
24-Jun	90.0	73.1	80.9	63.5	57.0	110.6	79.7	92.0	69.3
1-Jul	91.0	72.3	82.6	64.5	58.0	117.6	82.3	94.0	70.3
8-Jul	93.0	75.3	83.3	65.2	59.0	116.9	84.3	95.4	72.7
15-Jul	90.0	74.9	82.6	66.2	59.0	117.6	84.7	97.0	76.6
22-Jul	91.0	73.1	84.5	67.8	62.0	117.6	82.8	99.6	78.3
29-Jul	91.0	72.0	83.8	66.9	61.0	120.4	80.8	97.9	76.5
5-Aug	91.0	72.0	83.8	66.5	61.0	117.6	79.5	97.7	76.7
12-Aug	91.0	73.1	84.8	68.1	61.0	119.0	80.7	101.1	81.5
19-Aug	92.0	73.3	83.7	67.3	59.0	117.6	81.3	98.7	79.1
26-Aug	91.0	70.9	82.7	66.3	61.0	114.8	85.0	97.7	76.9
2-Sep	91.0	71.8	81.1	65.4	58.0	117.6	80.8	94.1	74.5
9-Sep	87.0	67.7	78.7	62.7	55.0	104.3	73.7	87.0	68.5
16-Sep	87.0	73.0	78.4	61.2	54.0	102.2	80.0	83.2	65.3
23-Sep	86.0	68.6	77.5	60.5	52.0	105.7	78.2	81.5	63.2
30-Sep	86.0	69.5	75.0	58.9	52.0	98.7	75.8	79.1	61.4
7-Oct	85.0	67.3	71.7	56.6	47.0	95.9	75.4	73.5	57.0
14-Oct	82.0	66.3	70.8	56.8	49.0	98.0	72.3	72.9	57.8
21-Oct	79.0	64.7	67.8	54.6	45.0	86.1	71.0	69.2	54.8
28-Oct	73.0	64.6	62.9	52.1	43.0	81.9	65.3	62.2	50.4
4-Nov	73.0	61.3	62.2	50.5	41.0	77.7	68.4	58.9	46.8
11-Nov	70.0	58.0	58.4	47.8	37.0	74.2	67.1	54.3	42.9
18-Nov	70.0	57.0	57.6	45.9	35.0	70.0	60.1	50.2	38.4
25-Nov	71.0	55.5	57.5	45.8	35.0	63.7	59.4	49.4	38.1
2-Dec	70.0	57.3	54.9	44.3	33.0	63.7	56.4	46.1	35.7
9-Dec	65.0	54.5	52.2	42.8	32.0	60.2	56.6	43.8	34.5
16-Dec	64.0	53.9	50.7	41.3	32.0	56.7	54.3	41.4	32.1
23-Dec	66.0	54.3	52.0	41.4	32.0	53.9	54.1	41.4	31.7
31-Dec	68.0	56.0	49.9	41.0	30.0	54.6	55.6	40.3	31.5



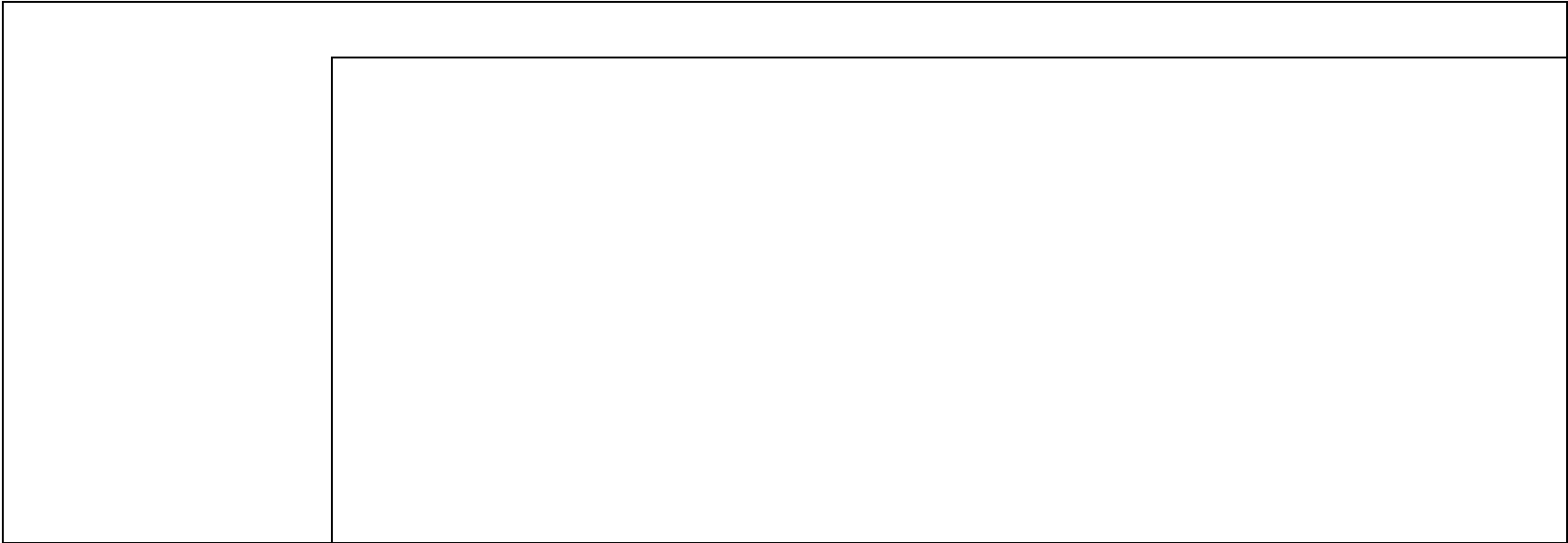
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	680
FEB	1	615
MAR	2	565
APR	9	321
MAY	55	115
JUN	192	13
JUL	295	3
AUG	286	2
SEP	133	29
OCT	27	171
NOV	3	398
DEC	1	580
ANN	1003	3492



	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	-19901	0	-364
FEB	0	-17887	0	-392
MAR	2	-16767	0	-200
APR	14	-10237	0	-8
MAY	134	-4427	77	-1
JUN	752	-822	656	0
JUL	1541	-212	1513	0
AUG	1628	-199	1679	0
SEP	372	-1435	504	0
OCT	60	-6104	72	-1
NOV	1	-12288	0	-52
DEC	0	-17299	0	-180
ANN	4504	-107578	4501	-1198

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

No Solar Radiation
Data Available

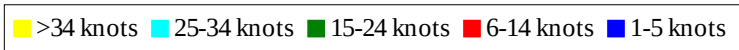
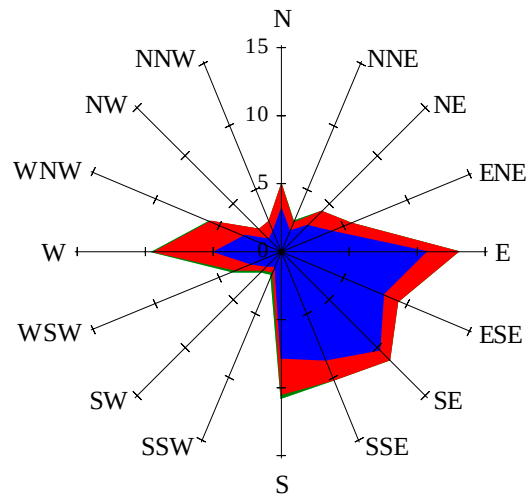


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

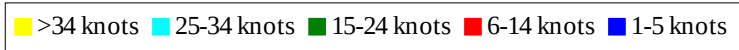
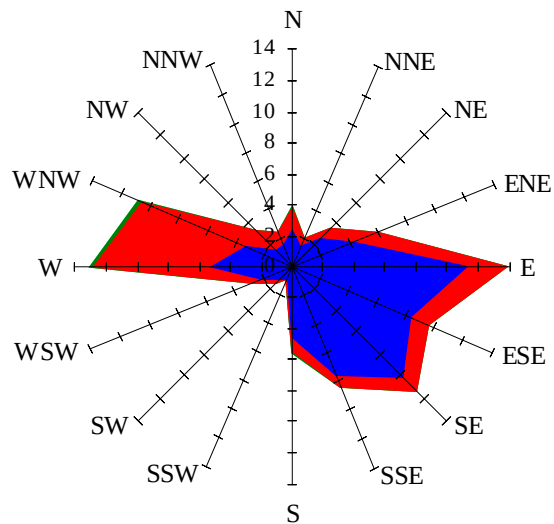
Labels of Percent Frequency on North Axis



Percent Calm = 2.25

Wind Summary - March, April, and May

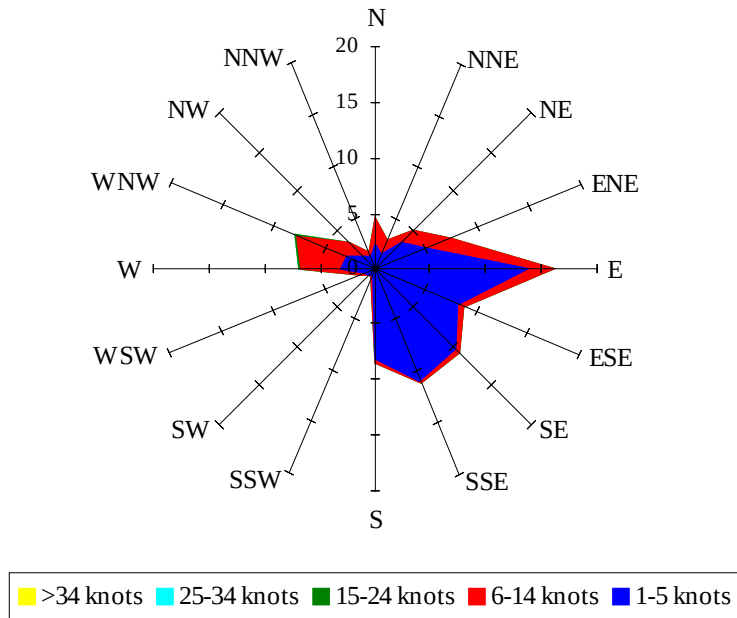
Labels of Percent Frequency on North Axis



Percent Calm = 1.91

Wind Summary - June, July, and August

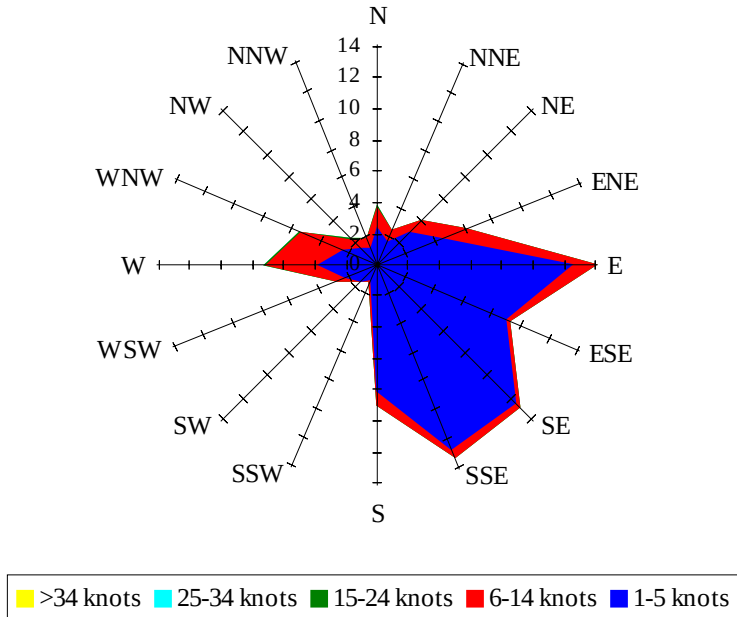
Labels of Percent Frequency on North Axis



Percent Calm = 3.15

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 3.95