

TEHRAN, IRAN

Latitude = 35.68 N

Longitude = 51.35 E

Period of Record = 1967 to 1996

WMO No. 407540

Elevation = 3908 feet

Average Pressure = 25.97 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	105	64	40	8.9	SE
0.4% Occurrence	102	63	39	9.1	ESE
1.0% Occurrence	100	63	41	8.4	SE
2.0% Occurrence	98	64	49	7.9	ESE
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	29	26	18	2.9	W
99.0% Occurrence	25	23	16	2.4	W
99.6% Occurrence	23	21	14	2.6	W
Median of Extreme Lows	19	17	12	2.5	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	71	95	87	6.9	SSW
0.4% Occurrence	68	93	77	6.4	ESE
1.0% Occurrence	67	93	72	6.3	S
2.0% Occurrence	65	92	63	6.1	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	92	85	0.54	4.8	W
0.4% Occurrence	82	90	0.48	19.7	SW
1.0% Occurrence	76	81	0.44	6.4	S
2.0% Occurrence	71	80	0.42	6.6	W
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		625	2332	0	86

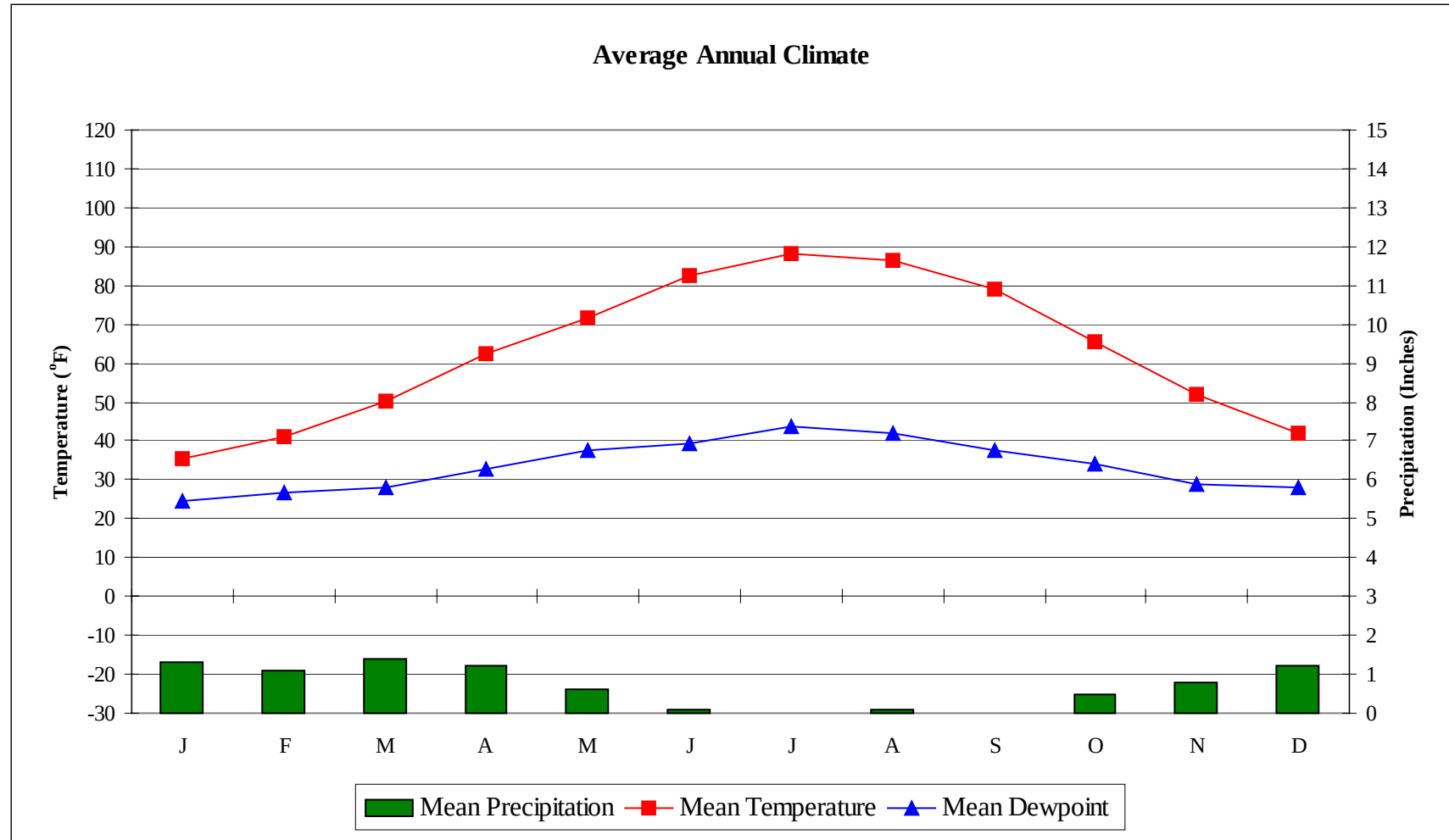
Other Site Data

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	0.0 + 2.5
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 (#)
66.8	N/A	N/A	26

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

TEHRAN, IRAN

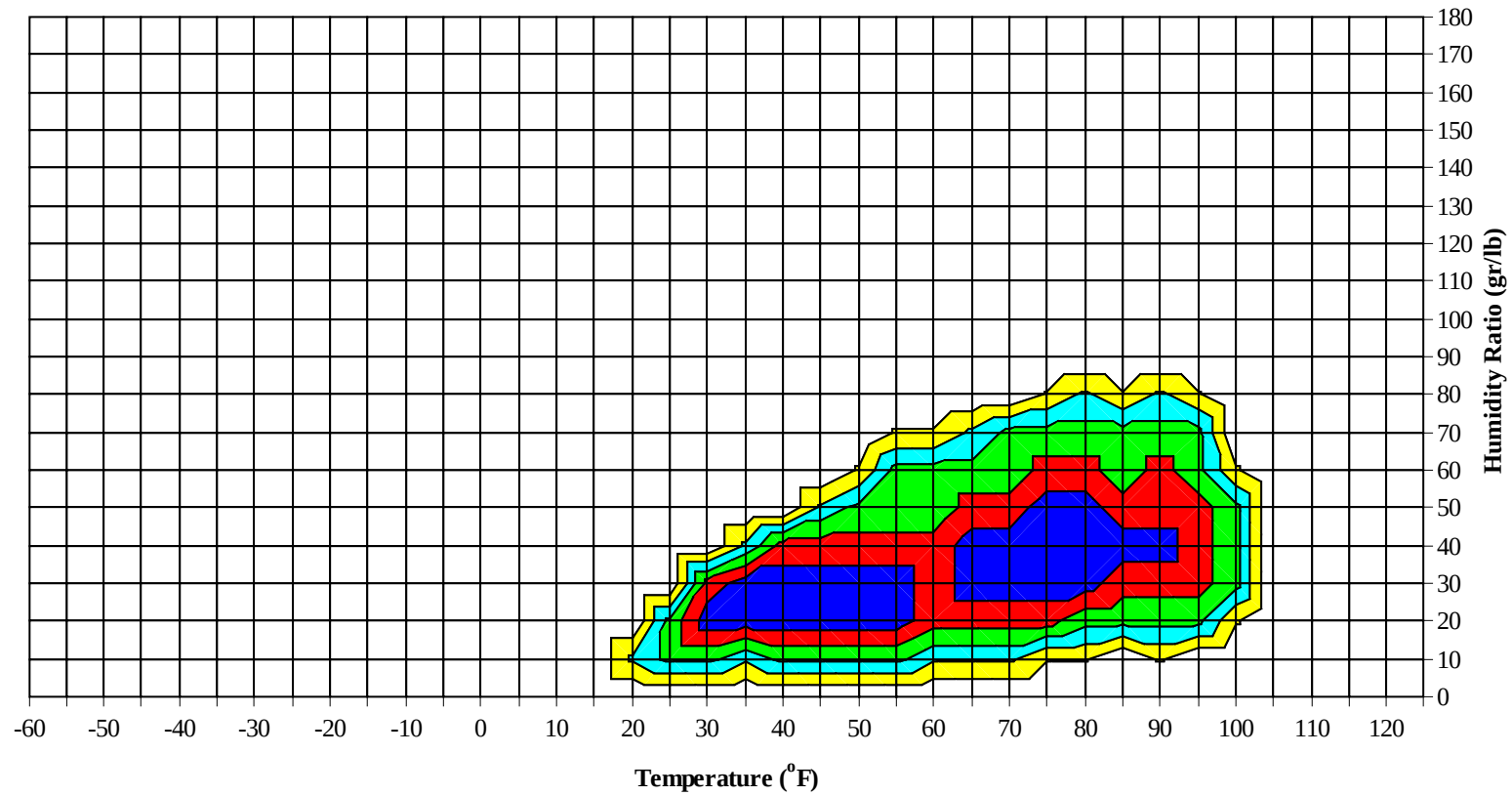
WMO No. 407540



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WMO No. 407540

Long Term Psychrometric Summary

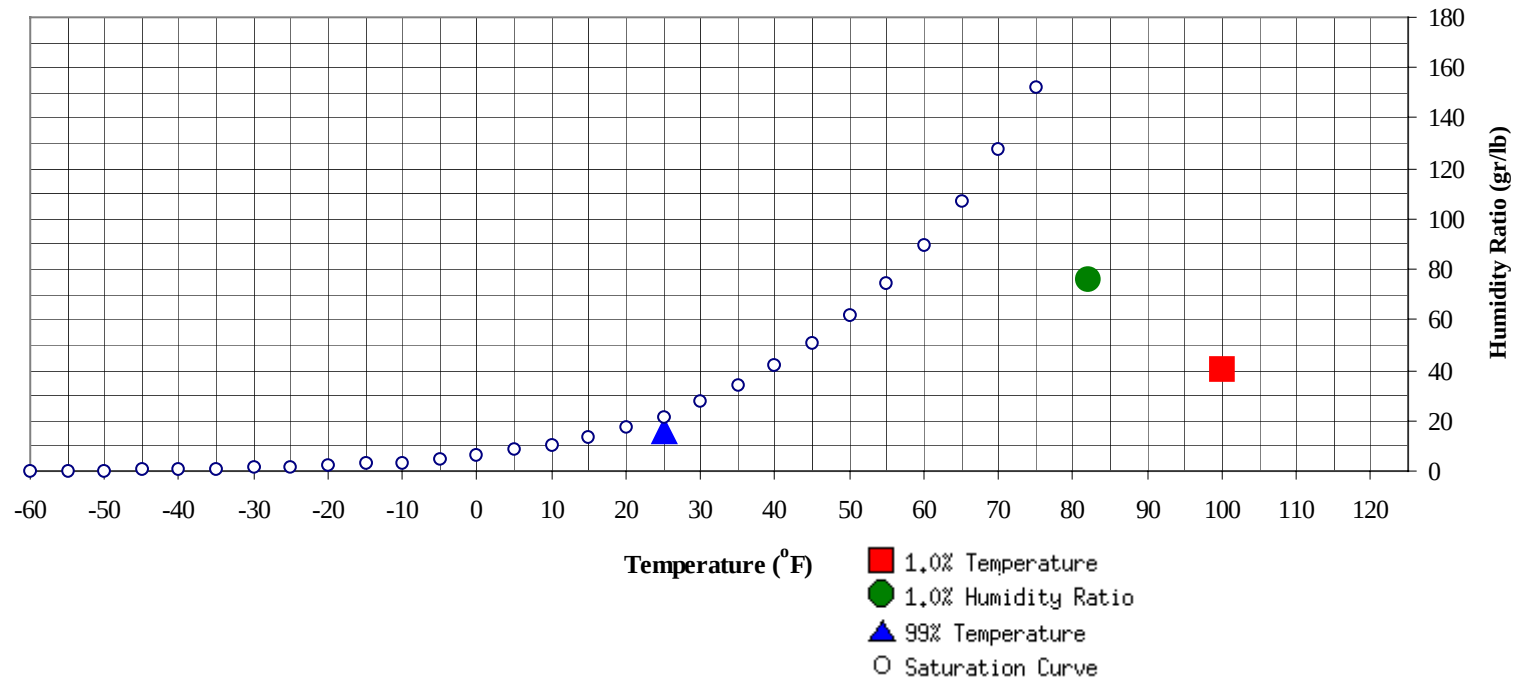


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	25	16.1	8.5		76.3	82	64.4	55.5	31.6

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	100	40.8	63.1	30.4

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

Period of Record = 1967 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		
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79												1	0	1	51.8
70 / 74							0		0	47.0	0	10	7	17	49.7
65 / 69							1	0	1	46.3	1	19	13	33	47.5
60 / 64	0	1		1	47.2		8	3	12	45.2	7	40	30	78	46.2
55 / 59	0	4	1	5	42.6	1	18	12	32	43.5	23	52	51	127	44.0
50 / 54	1	19	6	25	40.5	7	34	27	68	41.1	43	50	54	146	41.5
45 / 49	7	43	27	77	38.0	26	51	49	127	38.8	64	37	44	144	38.9
40 / 44	20	40	38	98	35.6	37	37	40	114	36.0	42	17	23	82	36.1
35 / 39	53	60	60	173	32.4	64	43	52	159	33.1	40	15	19	75	33.1
30 / 34	84	56	67	207	29.1	57	26	31	114	29.3	20	5	6	31	29.2
25 / 29	56	21	39	116	24.6	20	5	7	32	24.3	7	1	1	9	24.9
20 / 24	19	3	7	28	20.4	8	1	2	11	20.1	1	0		1	20.2
15 / 19	9	1	2	12	15.9	3	0	0	3	17.2	0			0	17.7
10 / 14	1	0	1	2	9.8										
5 / 9		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 = 1967 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		
105 / 109															
100 / 104															
95 / 99							1		1	60.4		5	6	11	61.3
90 / 94							11	7	17	57.7		33	28	61	60.8
85 / 89		1	0	1	56.6		25	17	43	57.0		62	53	116	60.1
80 / 84	0	10	4	14	55.1	3	50	40	93	56.1	42	48	50	106	59.0
75 / 79	0	32	20	52	53.0	19	64	60	144	54.7	71	53	55	150	58.0
70 / 74	5	52	48	105	50.9	50	52	57	159	53.2	56	26	29	126	56.4
65 / 69	21	46	44	111	49.8	51	52	57	159	53.2	56	10	13	79	55.2
60 / 64	21	46	44	111	49.8	51	24	30	105	52.0	34	2	4	40	54.3
55 / 59	55	49	54	159	47.9	67	14	26	106	51.2	24	1	2	27	52.2
50 / 54	62	29	42	133	45.9	36	5	10	50	49.0	4	0		4	48.3
45 / 49	55	14	18	87	43.5	17	2	1	20	45.3	0			0	46.8
40 / 44	30	4	7	41	40.5	4	1	0	5	42.9					
35 / 39	8	2	2	12	37.1	0	0	0	0	41.3					
30 / 34	3	1	1	5	35.3	0			0	36.3					
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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

Period of Record = 1967 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		
105 / 109		2	1	3	65.2		0		0	67.0					
100 / 104		30	23	52	63.7		12	6	18	63.8					
95 / 99	1	66	63	129	63.1	0	64	48	111	62.5		15	5	20	61.3
90 / 94	14	77	84	175	62.4	4	79	79	163	61.5	0	51	29	80	59.4
85 / 89	42	38	44	124	61.4	23	46	58	128	60.7	1	47	37	85	58.9
80 / 84	87	29	23	138	59.9	84	34	43	161	59.0	17	65	71	153	57.2
75 / 79	62	6	8	76	58.7	82	11	11	104	57.4	62	39	58	159	55.3
70 / 74	31	1	2	34	57.7	43	3	2	48	56.6	81	17	27	125	53.2
65 / 69	7	0	1	8	56.2	9	0	0	9	55.5	41	4	8	52	51.8
60 / 64	4		0	4	55.0	2	0		2	54.3	30	2	4	36	50.4
55 / 59	0			0	53.0	0			0	53.7	8	0	1	9	47.2
50 / 54											0			0	44.3
45 / 49															
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															

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

Period of Record = 1967 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		
105 / 109															
100 / 104															
95 / 99															
90 / 94															
85 / 89		3	0	3	56.8										
80 / 84		24	8	31	54.9										
75 / 79	1	63	29	93	53.6	0	3	0	3	52.0					
70 / 74	9	65	59	134	52.2	0	10	2	12	50.1					
65 / 69	29	41	55	125	50.5	0	18	7	25	48.8	0	1		1	47.8
60 / 64	82	32	56	169	48.6	7	55	25	87	46.8	0	4	1	5	46.3
55 / 59	69	14	26	108	46.1	27	65	52	143	44.8	1	20	6	27	43.6
50 / 54	40	5	10	54	42.9	53	48	68	169	42.4	10	55	33	98	41.9
45 / 49	14	2	4	20	40.3	70	30	55	155	38.7	33	60	67	159	39.1
40 / 44	4	1	1	6	39.4	40	7	22	69	35.3	53	46	54	153	36.1
35 / 39	1	0		1	36.6	34	4	8	46	31.4	81	40	53	174	33.1
30 / 34						8	1	1	10	27.3	47	19	30	97	29.5
25 / 29						1			1	24.6	19	3	5	27	24.8
20 / 24											3	1	0	4	20.3
15 / 19											0			0	18.5
10 / 14															
5 / 9															

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 5 of 5)

Period of Record = 1967 to 1996

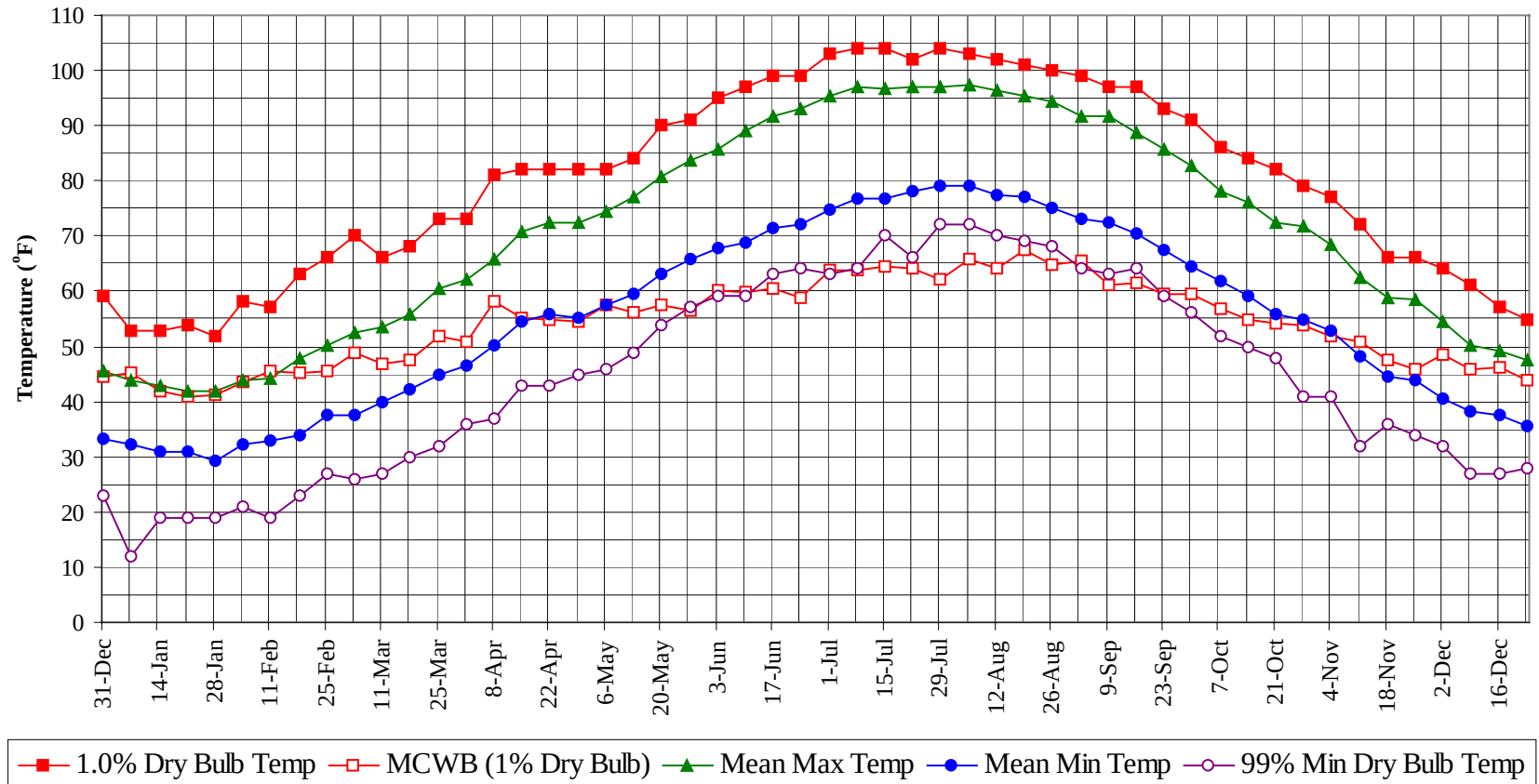
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
105 / 109		3	1	4	65.2
100 / 104		51	39	89	63.4
95 / 99	1	191	160	352	62.3
90 / 94	21	299	278	598	61.1
85 / 89	79	223	227	529	59.8
80 / 84	248	278	264	790	58.0
75 / 79	314	252	227	794	55.6
70 / 74	288	225	221	735	53.2
65 / 69	201	155	164	520	51.0
60 / 64	282	201	202	684	48.6
55 / 59	230	200	193	623	45.4
50 / 54	223	214	199	637	42.2
45 / 49	238	212	231	681	39.0
40 / 44	194	138	164	496	36.0
35 / 39	260	149	173	582	32.8
30 / 34	203	98	120	421	29.2
25 / 29	96	27	46	170	24.6
20 / 24	28	5	8	41	20.3
15 / 19	12	1	2	15	16.3
10 / 14	1	0	0	1	9.8
5 / 9		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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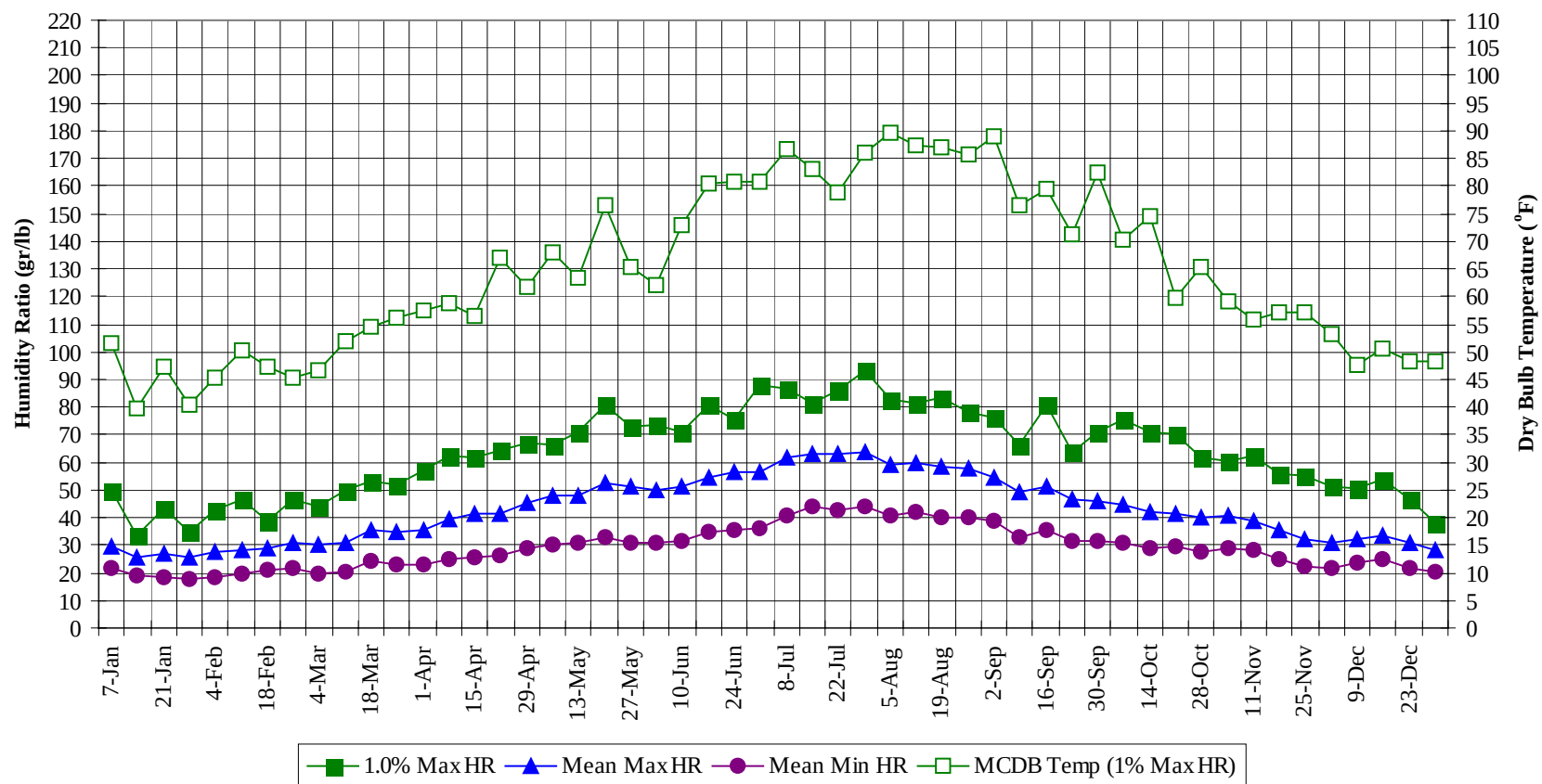
Annual Summary of Temperatures



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Long Term Humidity and Dry Bulb Temperature Summary

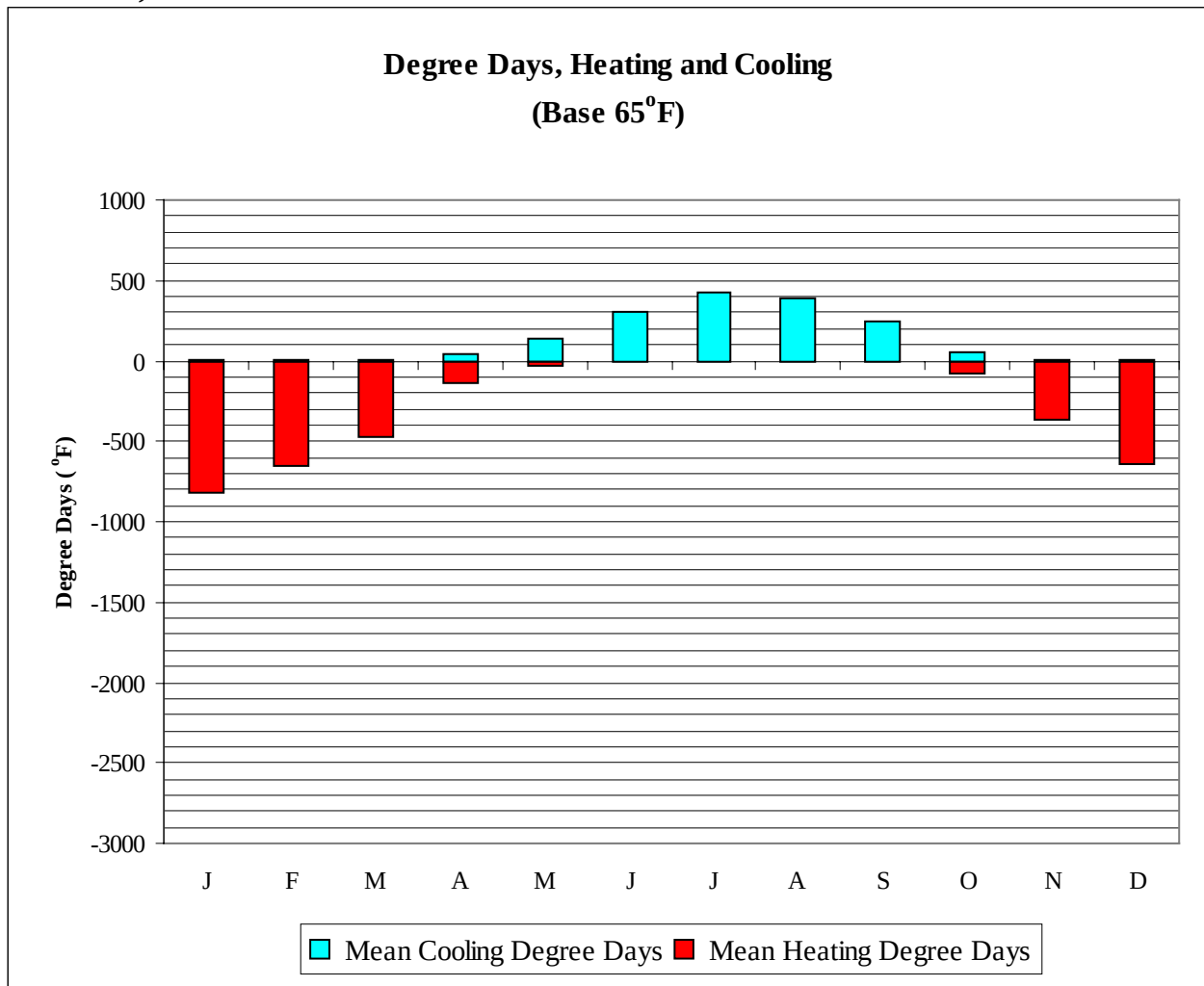


TEHRAN, IRAN**WMO No. 407540****Long Term Dry Bulb Temperature and Humidity Summary**

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	53.0	45.2	43.7	32.3	12.0	49.7	51.4	29.8	21.6
14-Jan	53.0	42.0	42.9	30.8	19.0	33.6	39.6	25.7	18.9
21-Jan	54.0	41.0	41.8	31.0	19.0	43.4	47.3	26.9	18.5
28-Jan	52.0	41.1	42.0	29.3	19.0	35.0	40.5	25.4	17.7
4-Feb	58.0	43.5	43.9	32.1	21.0	42.7	45.2	27.4	18.6
11-Feb	57.0	45.4	44.2	32.8	19.0	46.9	50.4	28.2	19.9
18-Feb	63.0	45.3	47.9	34.1	23.0	38.5	47.2	28.6	20.8
25-Feb	66.0	45.4	50.2	37.4	27.0	46.9	45.3	31.2	22.0
4-Mar	70.0	48.9	52.4	37.6	26.0	44.1	46.5	30.4	19.7
11-Mar	66.0	46.8	53.6	39.8	27.0	49.7	51.8	31.1	20.4
18-Mar	68.0	47.7	55.9	42.1	30.0	53.2	54.5	35.7	24.2
25-Mar	73.0	52.0	60.4	44.9	32.0	51.8	56.0	34.7	23.1
1-Apr	73.0	50.8	62.2	46.7	36.0	57.4	57.5	35.3	23.2
8-Apr	81.0	58.3	65.9	50.1	37.0	62.3	58.7	39.4	24.9
15-Apr	82.0	55.1	70.7	54.4	43.0	61.6	56.6	41.3	25.4
22-Apr	82.0	54.8	72.6	55.9	43.0	64.4	67.0	41.4	26.1
29-Apr	82.0	54.6	72.3	55.2	45.0	67.2	61.8	45.5	28.7
6-May	82.0	57.6	74.4	57.6	46.0	66.5	68.0	48.0	30.5
13-May	84.0	56.1	77.0	59.6	49.0	70.7	63.4	48.2	31.0
20-May	90.0	57.5	80.9	63.3	54.0	80.5	76.5	52.6	32.8
27-May	91.0	56.4	83.9	65.8	57.0	72.8	65.5	51.1	30.9
3-Jun	95.0	60.2	85.7	67.9	59.0	73.5	62.0	50.2	30.7
10-Jun	97.0	59.7	89.0	68.7	59.0	70.7	72.8	51.5	31.7
17-Jun	99.0	60.5	91.7	71.6	63.0	80.5	80.4	54.3	34.7
24-Jun	99.0	58.8	93.1	72.3	64.0	75.6	80.8	56.2	35.2
1-Jul	103.0	63.7	95.5	74.9	63.0	88.2	80.8	56.5	35.9
8-Jul	104.0	63.7	97.2	76.9	64.0	86.8	86.6	61.6	40.8
15-Jul	104.0	64.5	96.8	76.8	70.0	81.2	83.1	63.1	44.1
22-Jul	102.0	64.3	97.1	78.0	66.0	86.1	78.8	63.2	42.8
29-Jul	104.0	62.0	97.0	79.2	72.0	93.1	85.9	63.4	43.8
5-Aug	103.0	65.8	97.3	79.1	72.0	82.6	89.7	59.0	40.5
12-Aug	102.0	64.2	96.3	77.4	70.0	81.2	87.5	59.6	41.9
19-Aug	101.0	67.3	95.4	77.3	69.0	83.3	87.0	58.6	40.3
26-Aug	100.0	64.8	94.5	75.2	68.0	78.4	85.7	57.7	40.1
2-Sep	99.0	65.4	91.7	73.2	64.0	76.3	89.0	54.7	38.5
9-Sep	97.0	61.3	91.6	72.6	63.0	66.5	76.4	49.2	33.0
16-Sep	97.0	61.6	88.7	70.4	64.0	80.5	79.5	51.2	35.4
23-Sep	93.0	59.6	85.8	67.5	59.0	63.7	71.3	46.4	31.8
30-Sep	91.0	59.6	82.8	64.6	56.0	70.7	82.3	45.8	31.3
7-Oct	86.0	56.8	78.2	61.8	52.0	75.6	70.4	45.0	31.1
14-Oct	84.0	55.0	76.2	59.1	50.0	70.7	74.4	42.1	29.2
21-Oct	82.0	54.1	72.6	55.9	48.0	70.0	59.7	41.1	29.4
28-Oct	79.0	54.0	71.7	54.8	41.0	61.6	65.3	40.1	27.5
4-Nov	77.0	51.9	68.3	53.0	41.0	60.2	59.0	40.5	28.6
11-Nov	72.0	50.8	62.6	48.3	32.0	62.3	55.7	38.7	28.1
18-Nov	66.0	47.7	59.0	44.5	36.0	56.0	57.0	35.3	24.7
25-Nov	66.0	45.9	58.5	43.9	34.0	55.3	57.2	32.5	22.5
2-Dec	64.0	48.7	54.6	40.5	32.0	51.1	53.1	30.8	21.6
9-Dec	61.0	45.8	50.3	38.3	27.0	50.4	47.6	32.1	23.8
16-Dec	57.0	46.1	49.2	37.5	27.0	53.9	50.7	33.7	24.9
23-Dec	55.0	43.7	47.6	35.7	28.0	46.9	48.1	31.0	21.8
31-Dec	59.0	44.5	45.5	33.3	23.0	37.8	48.4	28.3	20.5

TEHRAN, IRAN

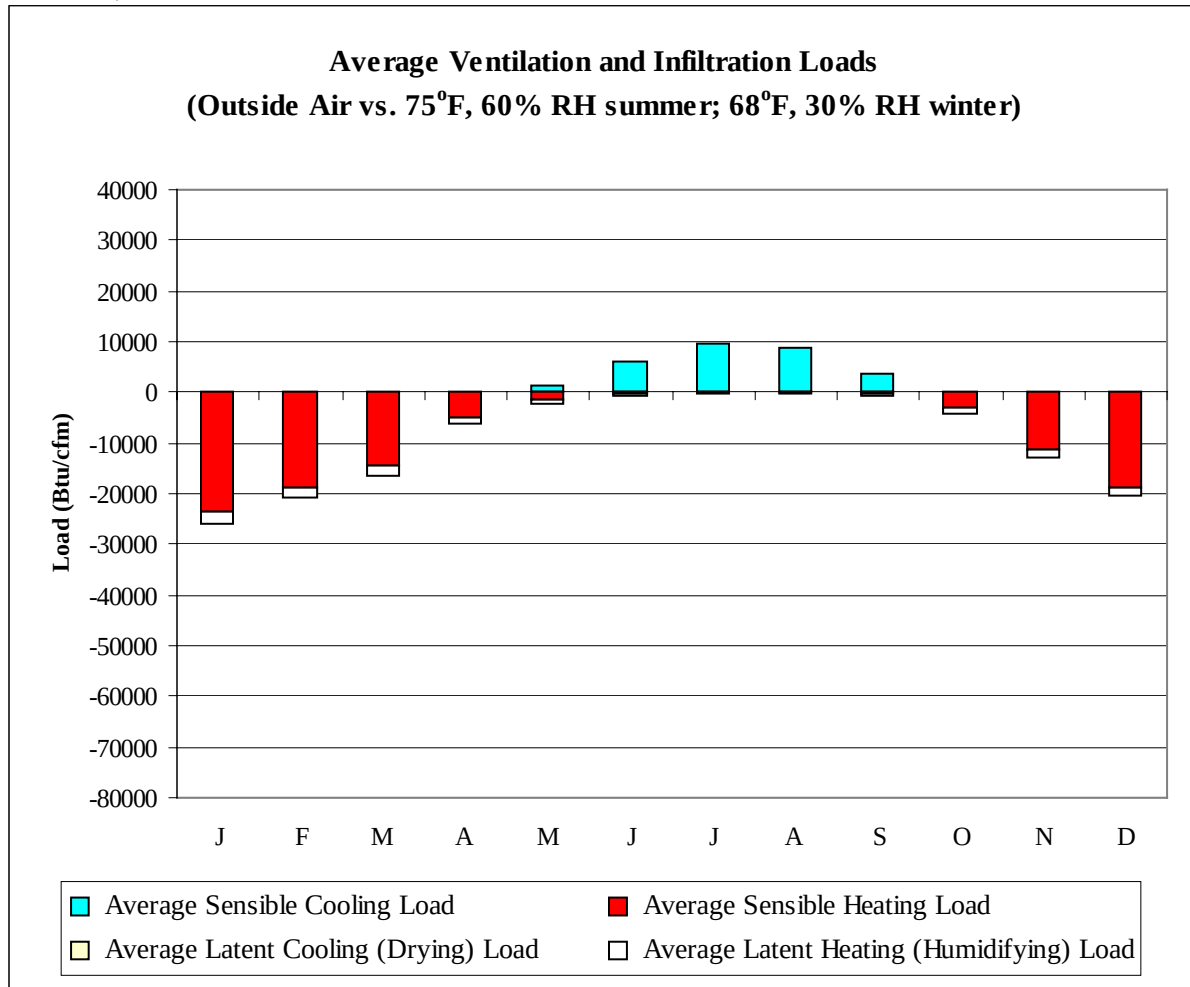
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	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	821
FEB	0	651
MAR	2	468
APR	36	137
MAY	141	31
JUN	308	2
JUL	423	0
AUG	390	0
SEP	244	3
OCT	58	77
NOV	2	361
DEC	0	642
ANN	1605	3193

TEHRAN, IRAN

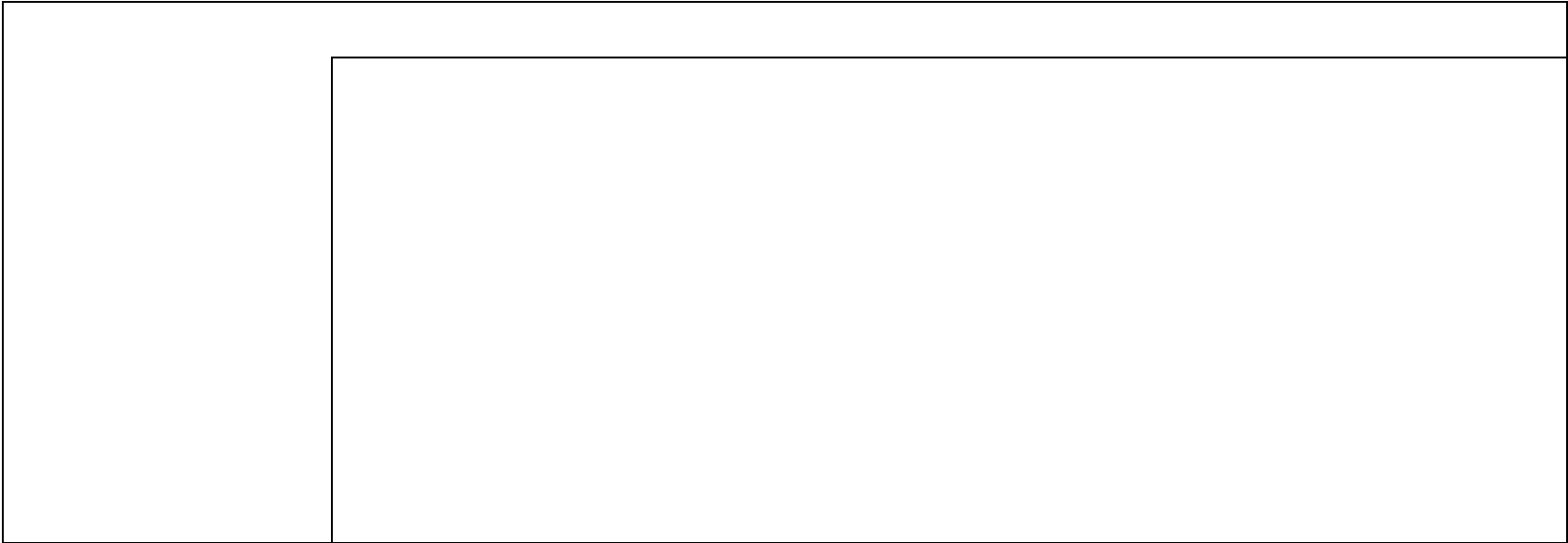
WMO No. 407540



	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	-23356	0	-2429
FEB	0	-18897	0	-1856
MAR	0	-14465	0	-1945
APR	110	-5117	0	-1198
MAY	1343	-1391	0	-699
JUN	6013	-120	3	-567
JUL	9777	-14	6	-184
AUG	8948	-16	3	-348
SEP	3862	-217	0	-572
OCT	248	-3137	0	-971
NOV	1	-11321	0	-1538
DEC	0	-18667	0	-1684
ANN	30302	-96718	12	-13991

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

No Solar Radiation
Data Available

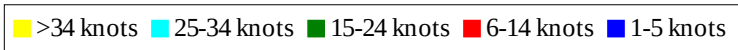
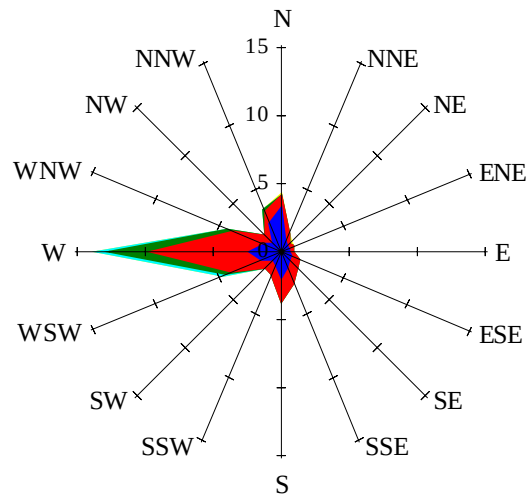


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

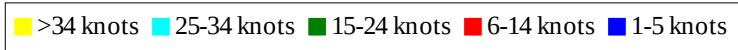
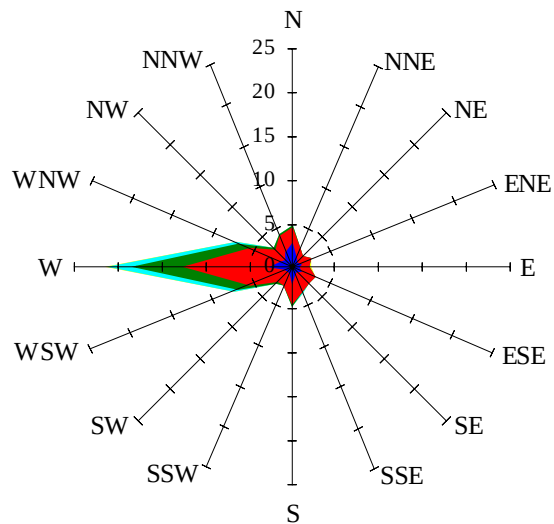
Labels of Percent Frequency on North Axis



Percent Calm = 51.95

Wind Summary - March, April, and May

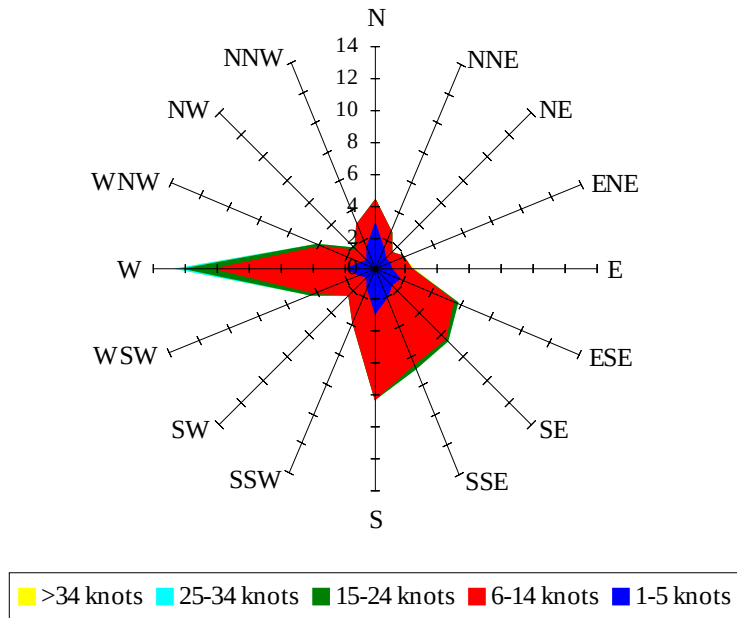
Labels of Percent Frequency on North Axis



Percent Calm = 27.84

Wind Summary - June, July, and August

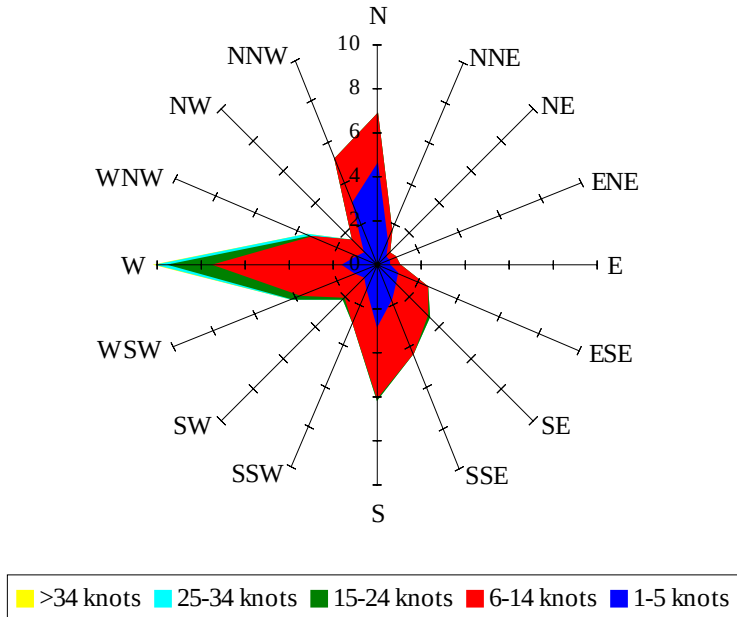
Labels of Percent Frequency on North Axis



Percent Calm = 28.63

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 43.23