

LAJES AB	AZ	
Latitude = 38.77 N	WMO No. 085090	
Longitude = 27.10 W	Elevation = 180 feet	
Period of Record = 1967 to 1996	Average Pressure = 29.94 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	83	73	107	7.7	SW
0.4% Occurrence	81	72	102	9.3	WSW
1.0% Occurrence	79	71	99	8.8	SW
2.0% Occurrence	77	70	96	8.7	NNW
Mean Daily Range	9	-	-	-	-
97.5% Occurrence	52	48	44	8.2	NNW
99.0% Occurrence	48	45	41	4.5	W
99.6% Occurrence	46	44	38	3.7	SW
Median of Extreme Lows	43	41	33	3.4	SW
	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	75	81	120	9.4	WSW
0.4% Occurrence	73	79	112	8.8	SW
1.0% Occurrence	72	77	109	8.5	NW
2.0% Occurrence	71	76	106	8.4	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	119	76	0.79	8.8	SW
0.4% Occurrence	112	75	0.75	7.3	NW
1.0% Occurrence	110	75	0.74	8.3	SW
2.0% Occurrence	104	74	0.70	9.9	NW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	47	47	1096

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
9	N/A	N/A	1.5 + 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 (#)
65.7	N/A	N/A	0

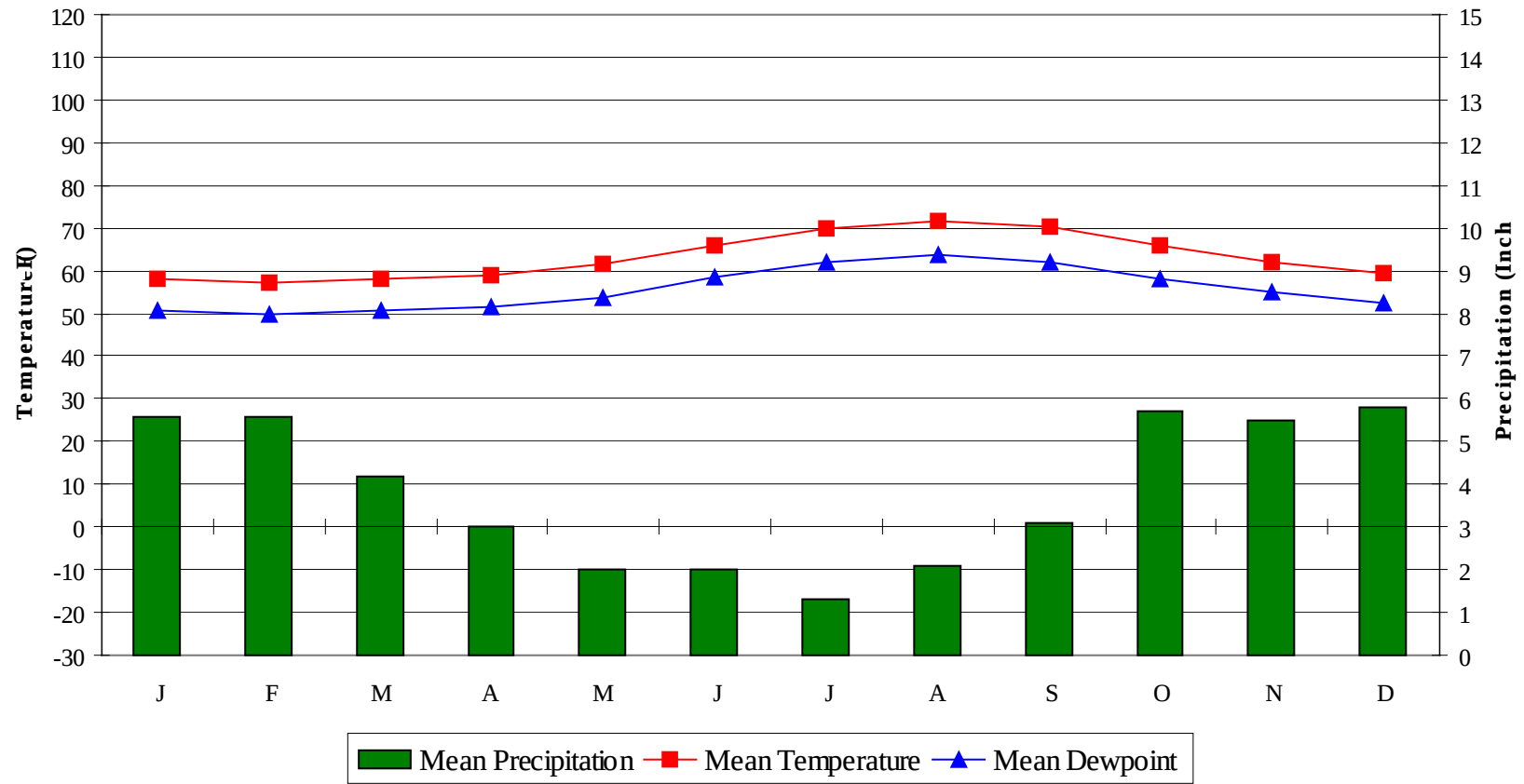
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

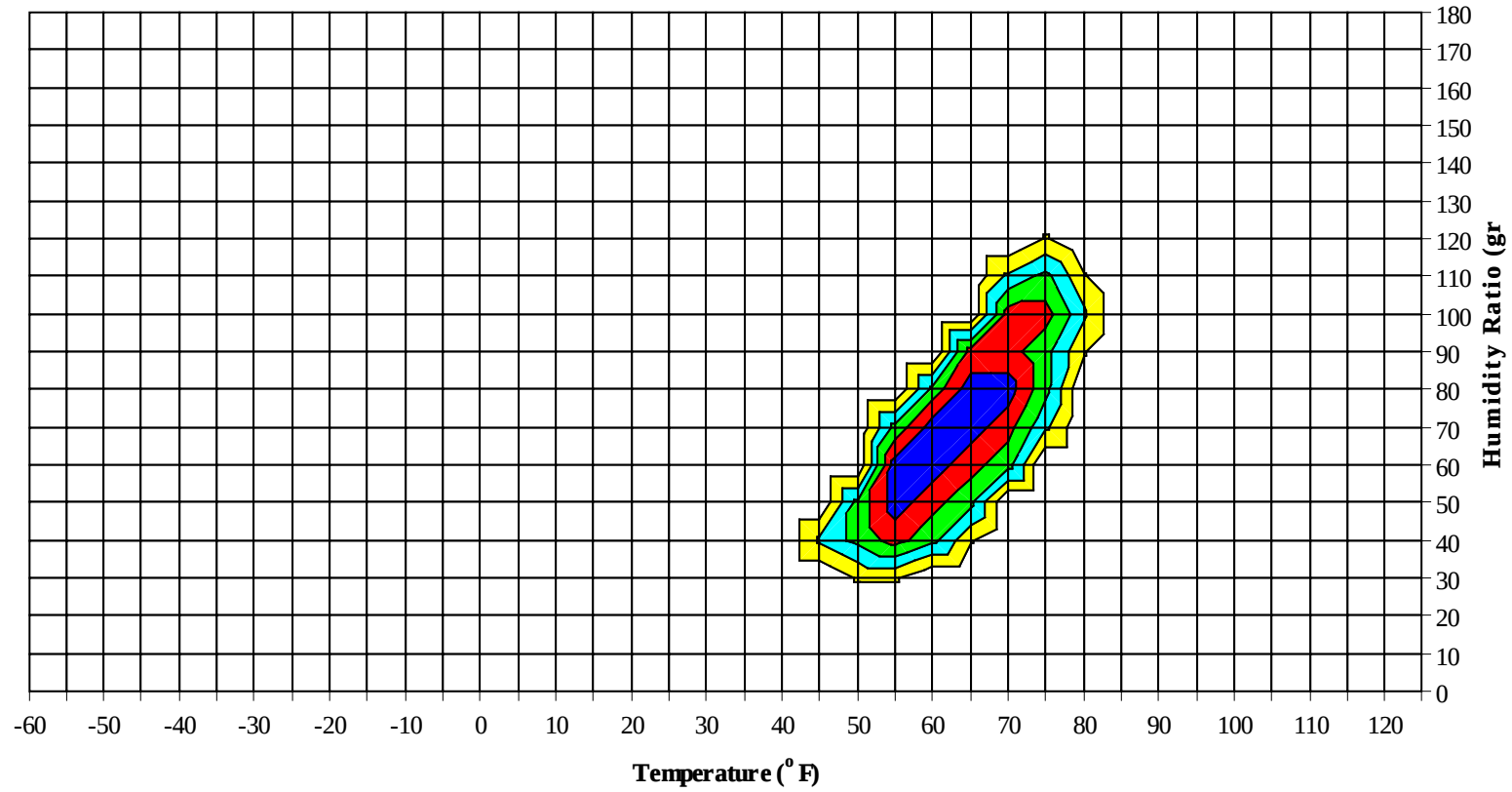


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Long Term Psychrometric Summary

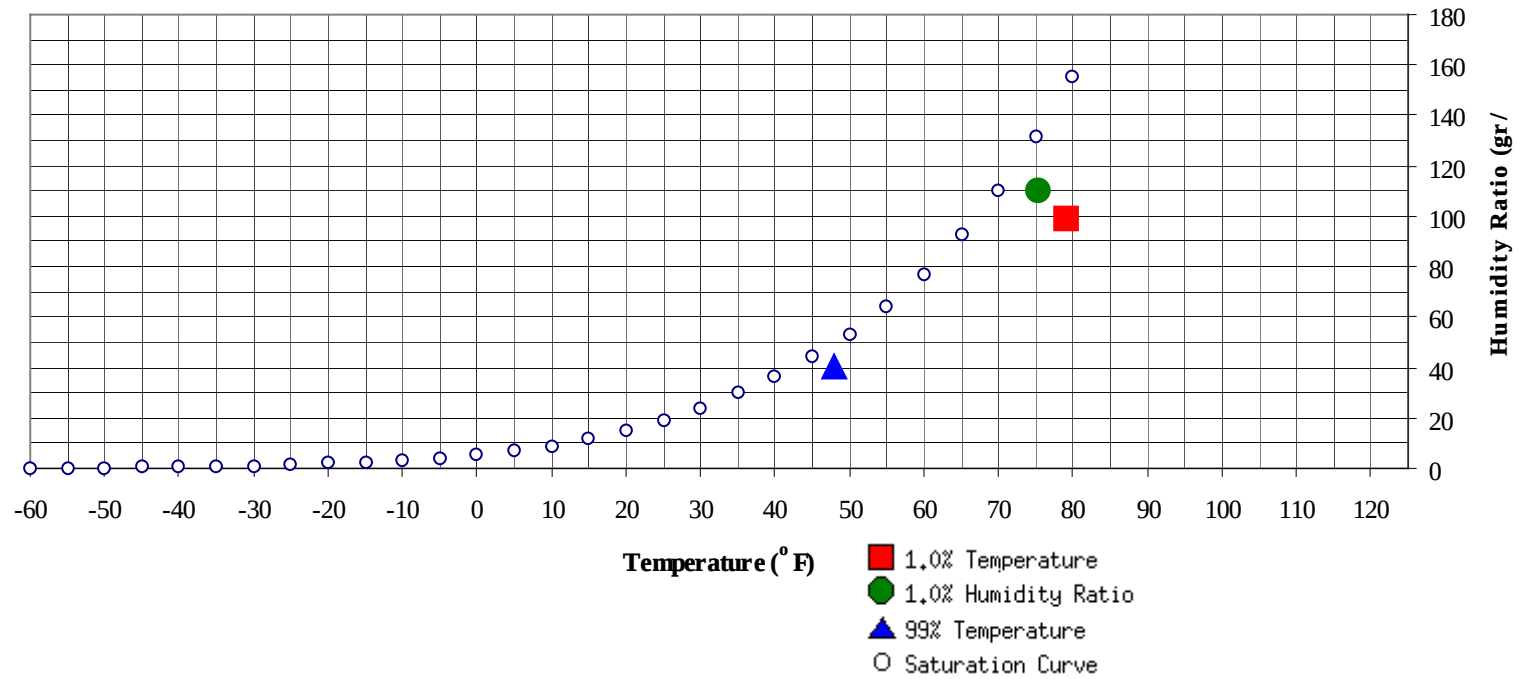


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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Psychrometric Summary of Peak Design Values

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)
	48	40.6	17.8		109.9	75.2	71.4	69.8	35.2

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	79	98.8	70.6	34.4

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WMO No. 85090

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		
85 / 89															
80 / 84															
75 / 79															
70 / 74		0		0	63.0		0		0	62.1		1	0	1	60.4
65 / 69	2	11	4	17	61.1	1	7	1	8	60.7	0	18	3	21	60.8
60 / 64	67	113	78	258	58.2	40	89	53	181	57.9	49	116	74	239	58.0
55 / 59	106	101	115	322	52.9	101	100	110	311	52.9	122	99	127	349	53.2
50 / 54	59	20	45	124	48.5	64	26	50	141	48.5	64	13	39	115	48.8
45 / 49	13	2	6	21	44.6	16	3	9	28	44.3	12	0	5	18	44.7
40 / 44	2	0	0	2	40.5	2	0	0	2	40.5	1	0	0	1	40.5
35 / 39	0			0	38.3	0			0	37.0					

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. 85090

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		
85 / 89															
80 / 84												0	0	1	70.5
75 / 79		0		0	64.0		1		1	66.4	0	14	3	17	68.1
70 / 74		4	0	5	62.4	1	27	6	34	63.9	13	93	40	146	65.1
65 / 69	1	30	7	38	60.4	15	68	33	116	61.4	64	87	90	241	62.6
60 / 64	50	139	86	276	57.5	98	129	123	350	57.8	122	44	93	259	59.2
55 / 59	129	62	120	311	53.4	109	23	77	209	53.7	35	1	13	48	54.5
50 / 54	51	5	25	80	49.2	24	0	9	33	50.0	6		1	8	50.9
45 / 49	8	0	3	11	45.4	1	0	0	2	45.7	0			0	46.2
40 / 44	0			0	42.8										
35 / 39															

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. 85090

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			
85 / 89							0		0	73.0			0		0	72.0
80 / 84		9	1	10	71.5	0	23	3	26	72.3		9	1	10	71.9	
75 / 79	4	80	26	109	68.9	13	115	46	173	69.5	6	83	23	111	69.3	
70 / 74	71	133	119	323	66.1	108	102	140	350	66.6	90	119	121	331	66.4	
65 / 69	98	24	76	198	63.5	78	8	44	130	63.8	79	24	65	168	63.0	
60 / 64	65	2	26	92	60.2	44	0	14	58	60.4	56	4	27	87	59.5	
55 / 59	10		1	11	55.9	5		1	6	56.0	9	0	3	12	55.4	
50 / 54											0		0	0	51.7	
45 / 49																
40 / 44																
35 / 39																

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 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		
85 / 89															
80 / 84		0		0	70.4										
75 / 79	1	15	2	18	68.9										
70 / 74	30	92	44	166	66.0	4	25	4	33	65.5		3	0	3	63.8
65 / 69	71	87	84	242	62.6	36	74	45	155	63.0	13	32	15	59	62.4
60 / 64	106	49	94	249	58.3	107	108	116	332	58.2	92	127	103	322	58.5
55 / 59	35	4	22	60	54.1	69	29	60	158	53.5	94	72	94	260	53.1
50 / 54	6	0	2	9	50.8	21	2	13	36	49.7	41	13	32	86	49.0
45 / 49						4	0	1	5	45.5	9	1	4	13	44.9
40 / 44						0			0	42.6	1	0	0	1	41.3
35 / 39															

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		
85 / 89		0		0	72.3
80 / 84	0	42	5	47	72.0
75 / 79	24	307	99	431	69.2
70 / 74	317	600	475	1392	66.1
65 / 69	457	469	466	1391	62.7
60 / 64	894	921	885	2700	58.3
55 / 59	825	491	743	2060	53.3
50 / 54	338	80	216	633	48.9
45 / 49	64	6	28	98	44.7
40 / 44	5	0	1	6	40.7
35 / 39	0			0	38.1

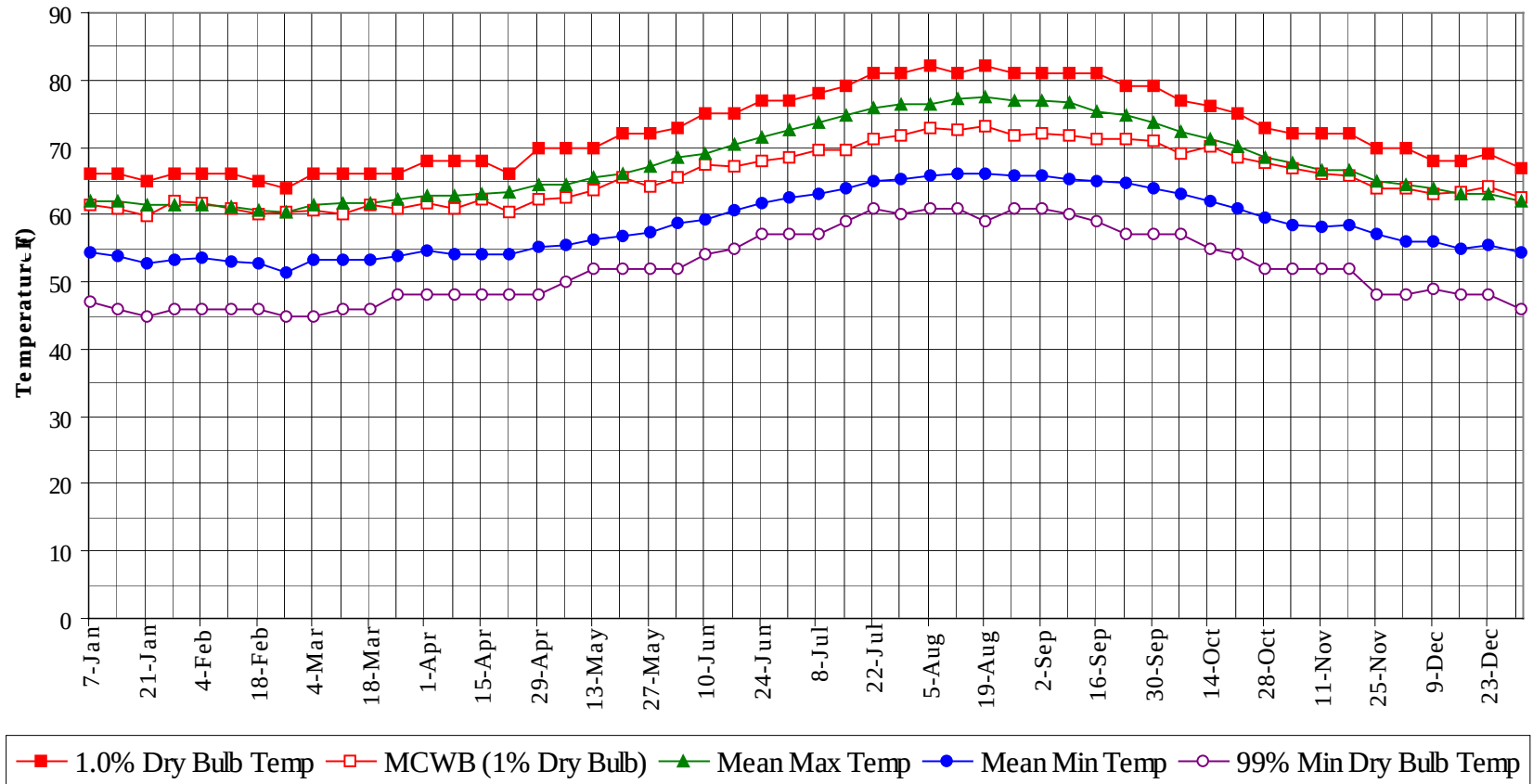
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

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Annual Summary of Temperatures

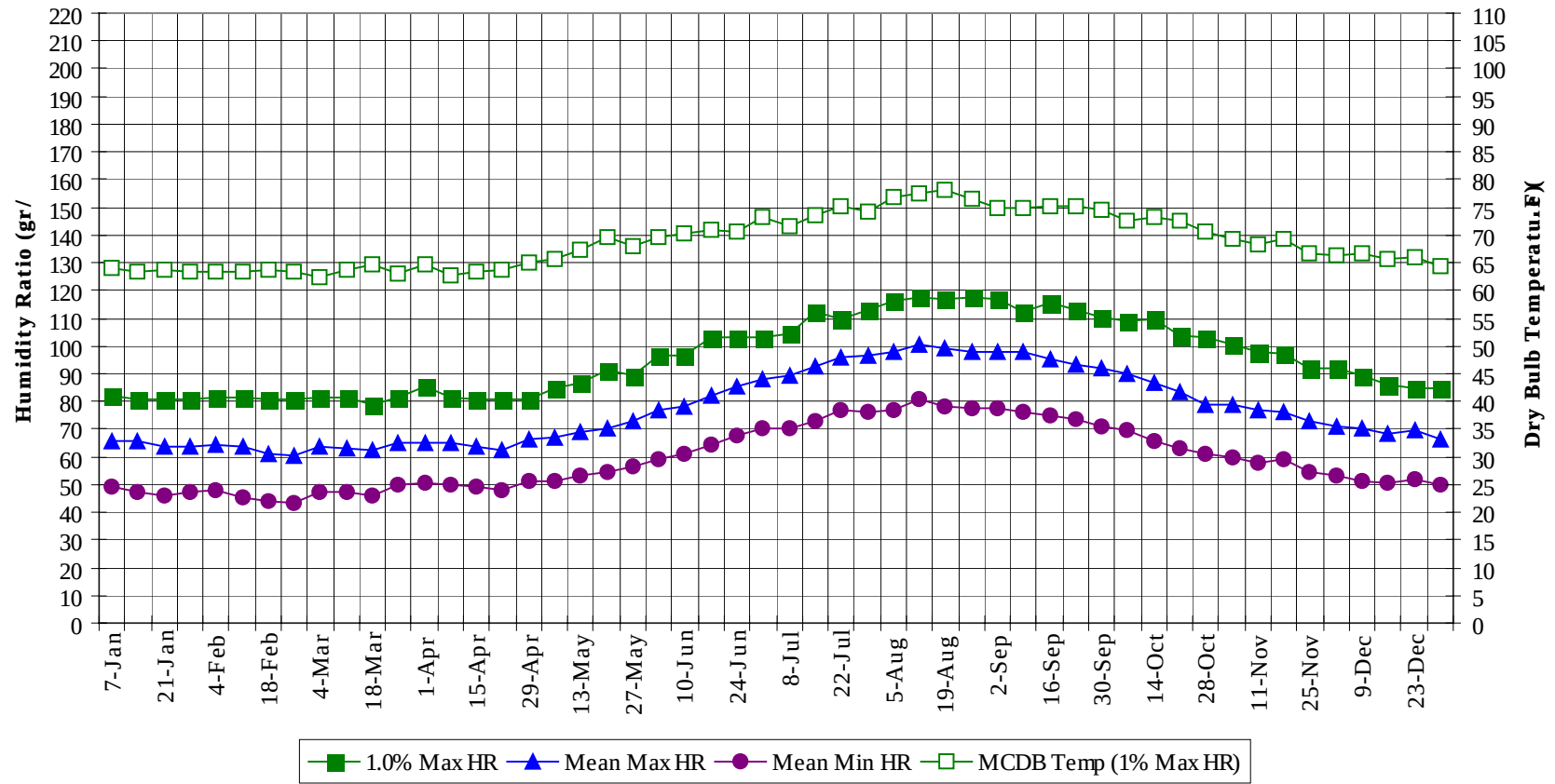


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Long Term Humidity and Dry Bulb Temperature Summary



LAJES AB**AZ****WMO No. 85090****Long Term Dry Bulb Temperature and Humidity Summary**

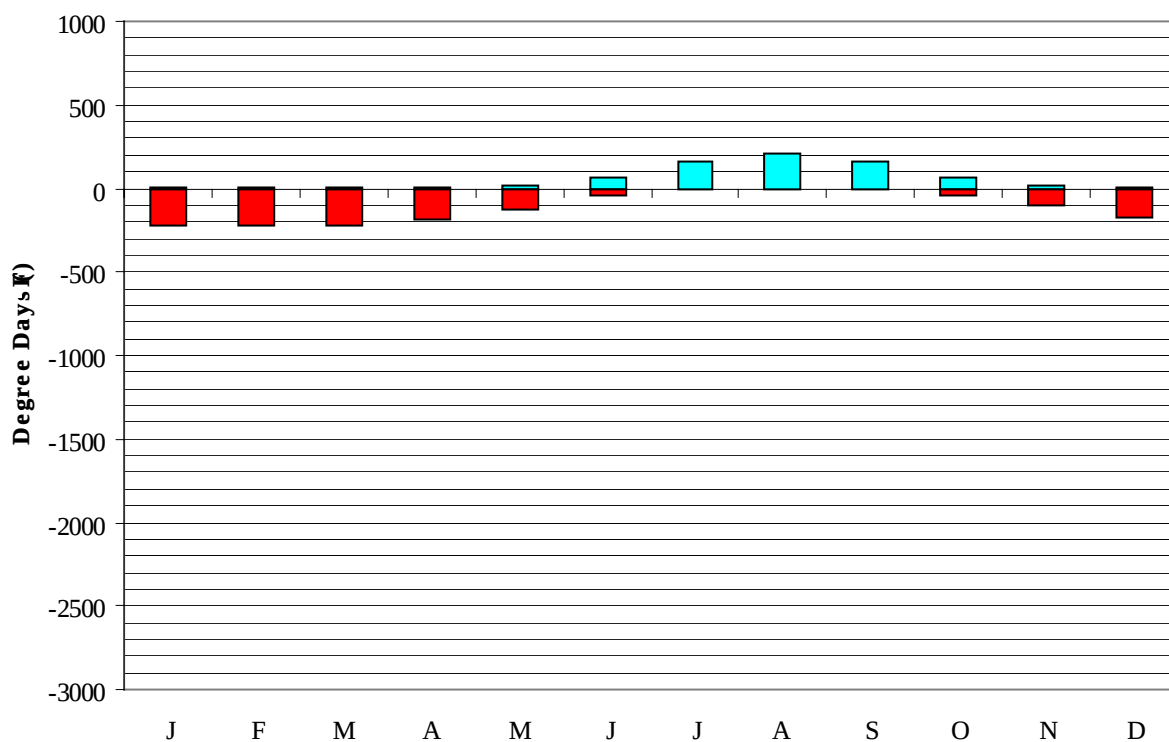
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	66.0	61.5	62.0	54.3	47.0	81.9	64.0	66.0	49.0
14-Jan	66.0	60.9	61.9	53.9	46.0	80.5	63.3	65.6	47.1
21-Jan	65.0	59.9	61.6	52.9	45.0	80.5	63.6	63.7	45.8
28-Jan	66.0	61.9	61.4	53.4	46.0	80.5	63.4	63.6	47.0
4-Feb	66.0	61.6	61.4	53.6	46.0	81.2	63.5	64.5	47.7
11-Feb	66.0	61.0	61.2	53.0	46.0	81.2	63.2	63.8	45.5
18-Feb	65.0	60.1	60.7	52.7	46.0	80.5	63.9	61.4	44.0
25-Feb	64.0	60.3	60.5	51.5	45.0	80.5	63.4	60.5	43.4
4-Mar	66.0	60.6	61.6	53.2	45.0	81.2	62.5	63.5	47.0
11-Mar	66.0	60.2	61.7	53.3	46.0	81.2	63.6	63.3	47.2
18-Mar	66.0	61.5	61.7	53.4	46.0	79.1	64.6	62.2	46.1
25-Mar	66.0	60.9	62.2	54.0	48.0	81.2	63.2	65.0	49.9
1-Apr	68.0	61.7	62.9	54.6	48.0	85.4	64.9	65.1	50.4
8-Apr	68.0	60.9	62.7	54.2	48.0	81.2	62.6	65.2	49.9
15-Apr	68.0	62.3	63.1	54.0	48.0	80.5	63.5	63.7	49.0
22-Apr	66.0	60.4	63.3	54.1	48.0	80.5	63.7	62.7	48.1
29-Apr	70.0	62.2	64.4	55.2	48.0	80.5	65.1	66.3	51.1
6-May	70.0	62.7	64.4	55.4	50.0	84.7	65.6	66.7	51.5
13-May	70.0	63.8	65.5	56.2	52.0	86.8	67.5	68.7	53.1
20-May	72.0	65.7	66.1	56.9	52.0	91.0	69.5	70.5	54.4
27-May	72.0	64.1	67.1	57.3	52.0	89.6	68.0	72.6	56.2
3-Jun	73.0	65.5	68.6	58.7	52.0	96.6	69.7	76.8	59.3
10-Jun	75.0	67.4	69.2	59.1	54.0	96.6	70.3	78.0	61.2
17-Jun	75.0	67.1	70.3	60.6	55.0	102.9	70.8	82.0	64.6
24-Jun	77.0	68.1	71.4	61.7	57.0	102.9	70.4	85.5	67.4
1-Jul	77.0	68.6	72.5	62.6	57.0	102.9	73.4	87.8	70.6
8-Jul	78.0	69.6	73.6	63.1	57.0	104.3	71.7	89.1	70.1
15-Jul	79.0	69.7	74.9	63.8	59.0	112.0	73.6	92.3	73.0
22-Jul	81.0	71.4	76.0	65.1	61.0	109.9	75.3	96.0	76.9
29-Jul	81.0	71.8	76.4	65.2	60.0	112.7	74.3	96.2	76.5
5-Aug	82.0	73.0	76.4	65.7	61.0	116.2	76.8	97.7	77.1
12-Aug	81.0	72.5	77.3	66.0	61.0	117.6	77.4	100.2	80.5
19-Aug	82.0	73.0	77.5	66.1	59.0	116.9	78.2	99.1	78.4
26-Aug	81.0	71.8	76.9	65.8	61.0	117.6	76.5	98.0	77.8
2-Sep	81.0	72.1	76.8	65.9	61.0	116.9	75.0	97.6	77.5
9-Sep	81.0	71.8	76.8	65.4	60.0	112.0	74.8	97.7	75.9
16-Sep	81.0	71.4	75.3	64.9	59.0	115.5	75.2	95.5	74.9
23-Sep	79.0	71.3	74.9	64.7	57.0	112.7	75.2	93.6	73.7
30-Sep	79.0	71.0	73.8	63.9	57.0	110.6	74.7	92.0	71.3
7-Oct	77.0	69.2	72.4	63.2	57.0	109.2	72.6	89.8	69.6
14-Oct	76.0	70.1	71.2	62.0	55.0	109.9	73.3	86.5	65.6
21-Oct	75.0	68.6	70.2	60.9	54.0	103.6	72.7	83.3	62.9
28-Oct	73.0	67.7	68.6	59.6	52.0	102.9	70.5	79.0	60.8
4-Nov	72.0	66.8	67.7	58.6	52.0	100.8	69.2	78.7	59.5
11-Nov	72.0	66.0	66.7	58.2	52.0	98.0	68.3	76.9	57.6
18-Nov	72.0	65.9	66.7	58.6	52.0	97.3	69.1	76.3	59.1
25-Nov	70.0	63.9	65.1	57.1	48.0	91.7	66.8	72.6	54.6
2-Dec	70.0	63.9	64.4	56.0	48.0	91.7	66.2	70.9	53.5
9-Dec	68.0	63.0	63.8	55.9	49.0	89.6	66.5	70.3	51.5
16-Dec	68.0	63.4	63.1	55.0	48.0	86.1	65.5	68.4	50.4
23-Dec	69.0	64.2	63.2	55.5	48.0	84.7	65.9	69.8	51.8
31-Dec	67.0	62.4	62.1	54.3	46.0	84.7	64.2	66.4	50.2

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



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

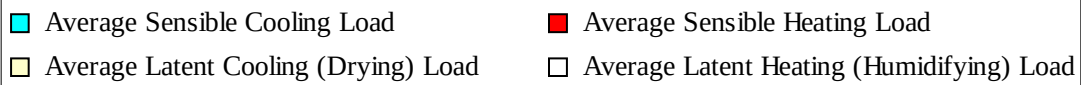
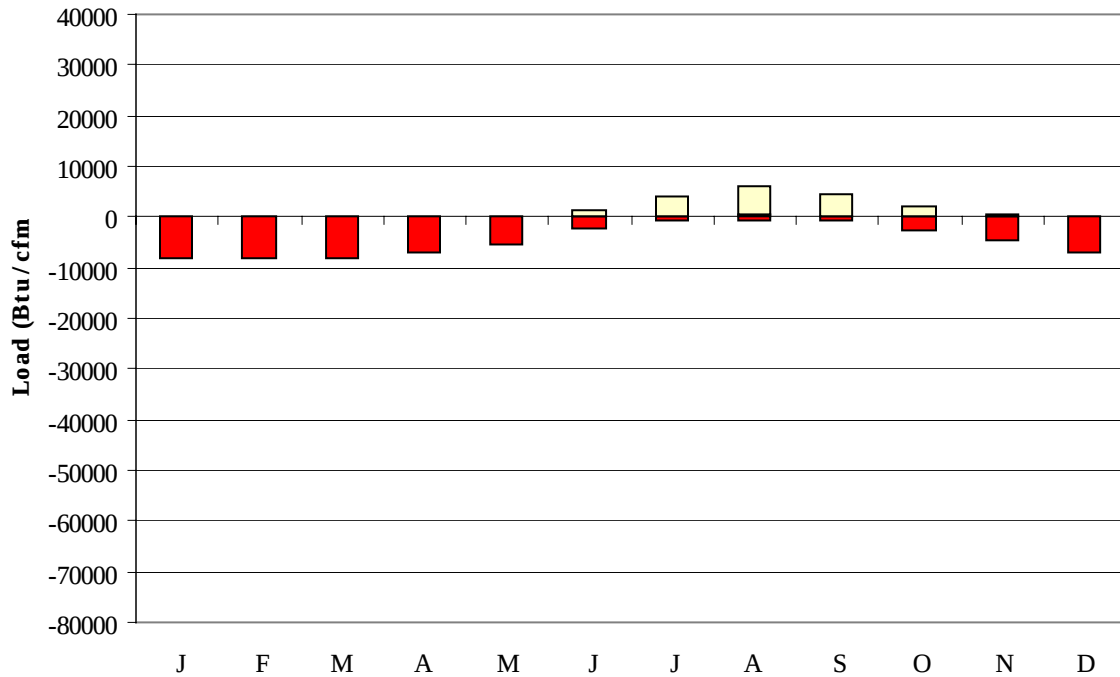
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	1	220
FEB	0	225
MAR	1	219
APR	3	183
MAY	16	122
JUN	64	42
JUL	165	11
AUG	211	6
SEP	165	11
OCT	70	46
NOV	19	106
DEC	4	176
ANN	720	1367

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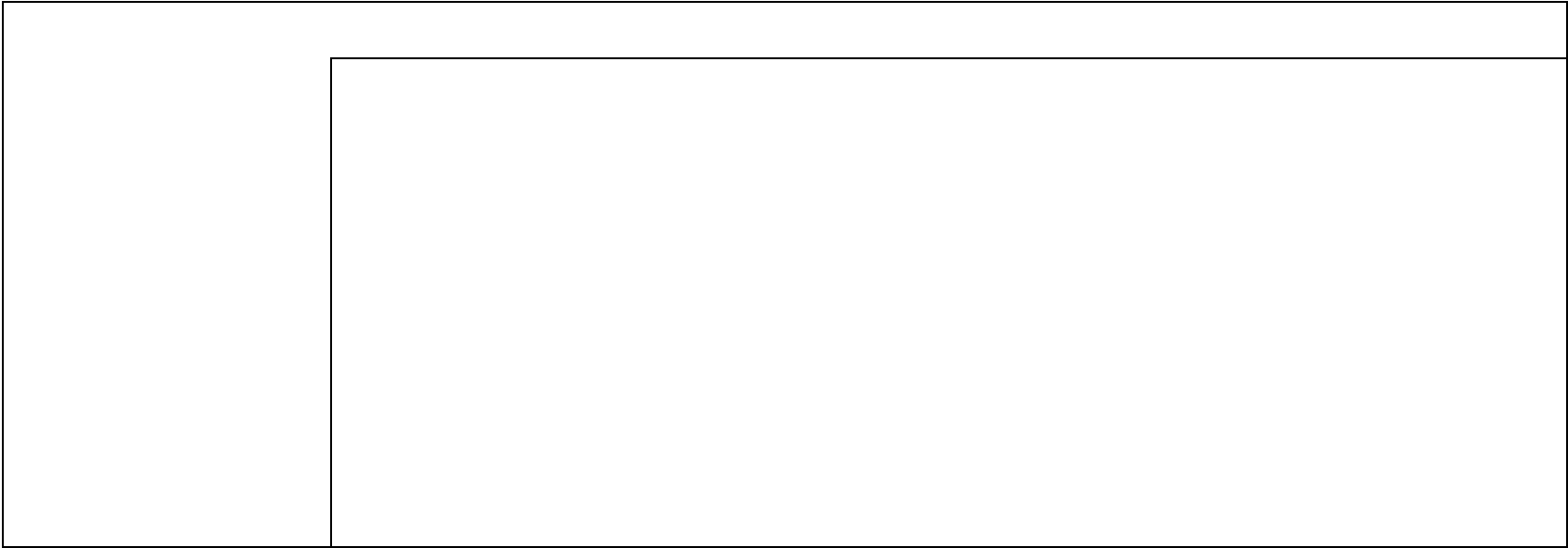
Average Ventilation and Infiltration Loads
(Outside Air vs. 75°F, 60% RH summer; 68°F, 30% RH winter)



	Average Sensible Cooling Load (Btu/cfm)	Average Sensible Heating Load (Btu/cfm)	Average Latent Cooling Load (Btu/cfm)	Average Latent Heating Load (Btu/cfm)
JAN	0	-8089	24	-3
FEB	0	-8028	17	-7
MAR	0	-8044	28	-3
APR	0	-7020	23	0
MAY	0	-5269	231	0
JUN	21	-2421	1439	0
JUL	221	-793	3771	0
AUG	439	-490	5438	0
SEP	212	-767	4259	0
OCT	18	-2520	1904	0
NOV	0	-4700	709	0
DEC	0	-6869	142	-1
ANN	911	-55010	17985	-14

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

No Solar Radiation
Data Available

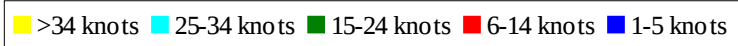
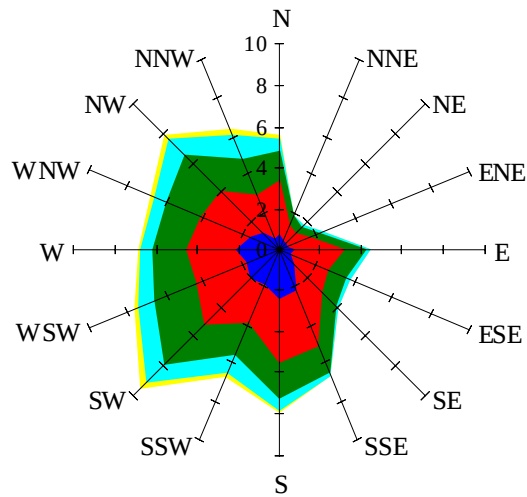


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

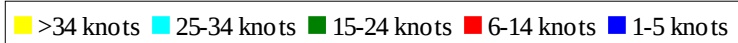
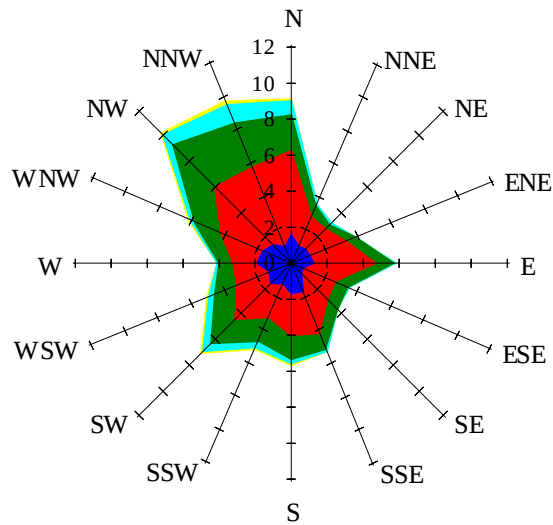
Labels of Percent Frequency on North Axis



Percent Calm = 10.89

Wind Summary - March, April, and May

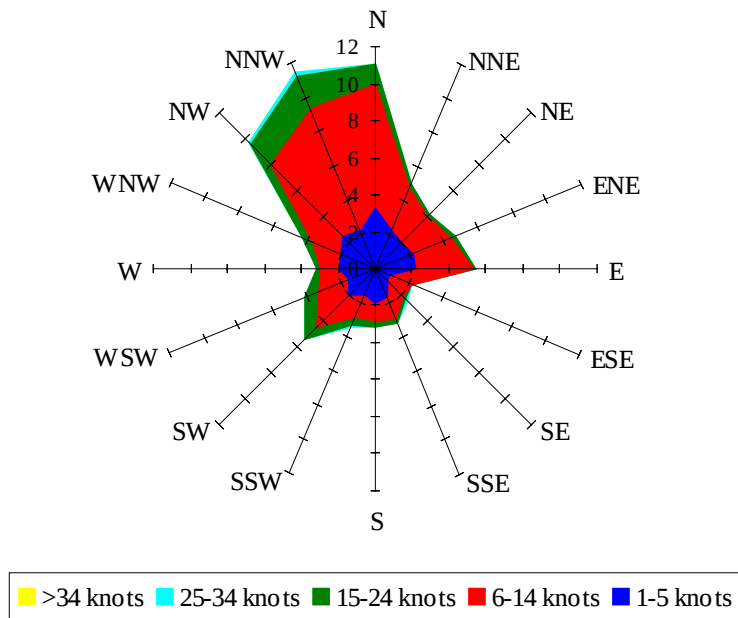
Labels of Percent Frequency on North Axis



Percent Calm = 10.38

Wind Summary - June, July, and August

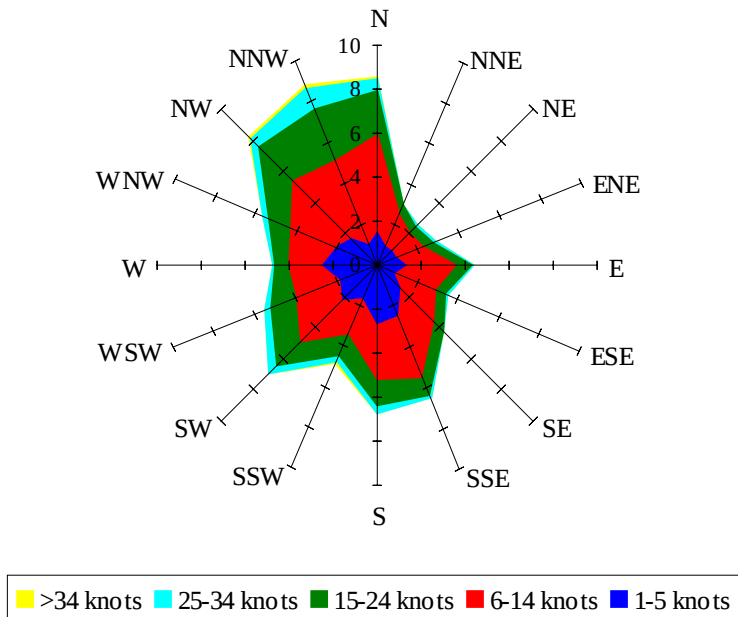
Labels of Percent Frequency on North Axis



Percent Calm = 17.67

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 13.39