

LANGLEY AFB/HAMPTON VA

Latitude = 37.08 N

WMO No. 745980

Longitude = 76.37 W

Elevation = 10 feet

Period of Record = 1967 to 1996

Average Pressure = 30.01 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	79	122	10.1	WSW
0.4% Occurrence	93	78	119	9.3	WSW
1.0% Occurrence	90	77	117	9.2	SW
2.0% Occurrence	88	76	114	9.0	SW
Mean Daily Range	16	-	-	-	-
97.5% Occurrence	28	24	13	8.2	N
99.0% Occurrence	23	20	9	8.0	N
99.6% Occurrence	19	16	8	8.7	N
Median of Extreme Lows	14	12	6	9.3	NW
	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	82	92	146	9.6	WSW
0.4% Occurrence	80	89	136	8.6	SW
1.0% Occurrence	78	86	129	8.4	SW
2.0% Occurrence	77	85	125	8.3	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	151	86	1.00	9.1	SW
0.4% Occurrence	141	85	0.94	7.4	SW
1.0% Occurrence	135	84	0.90	6.8	SW
2.0% Occurrence	131	83	0.88	7.2	SW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		41	980	1050	2368

Other Site Data

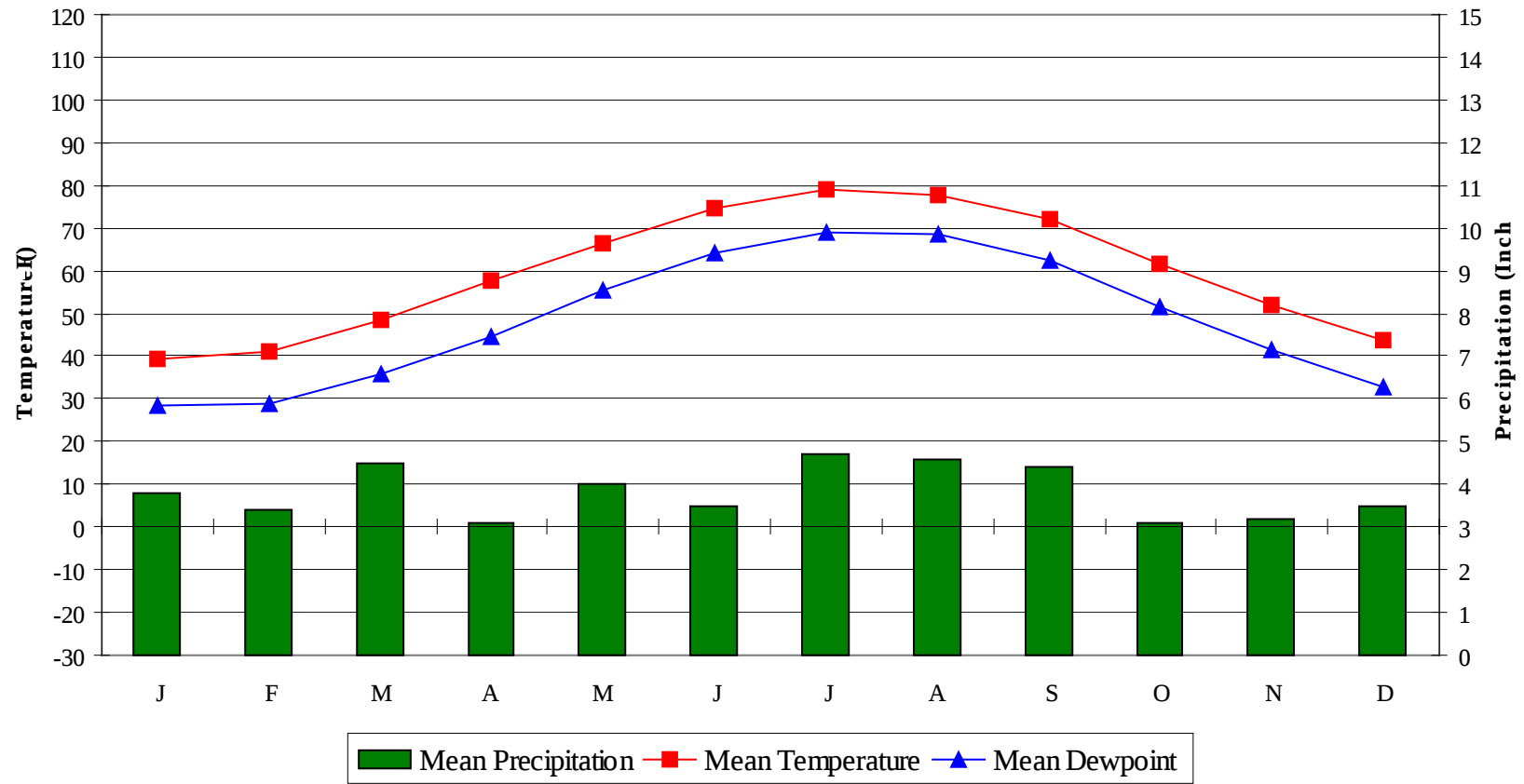
Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
8	3.3	110	3.8 + 1.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
62.1	9	10	36

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

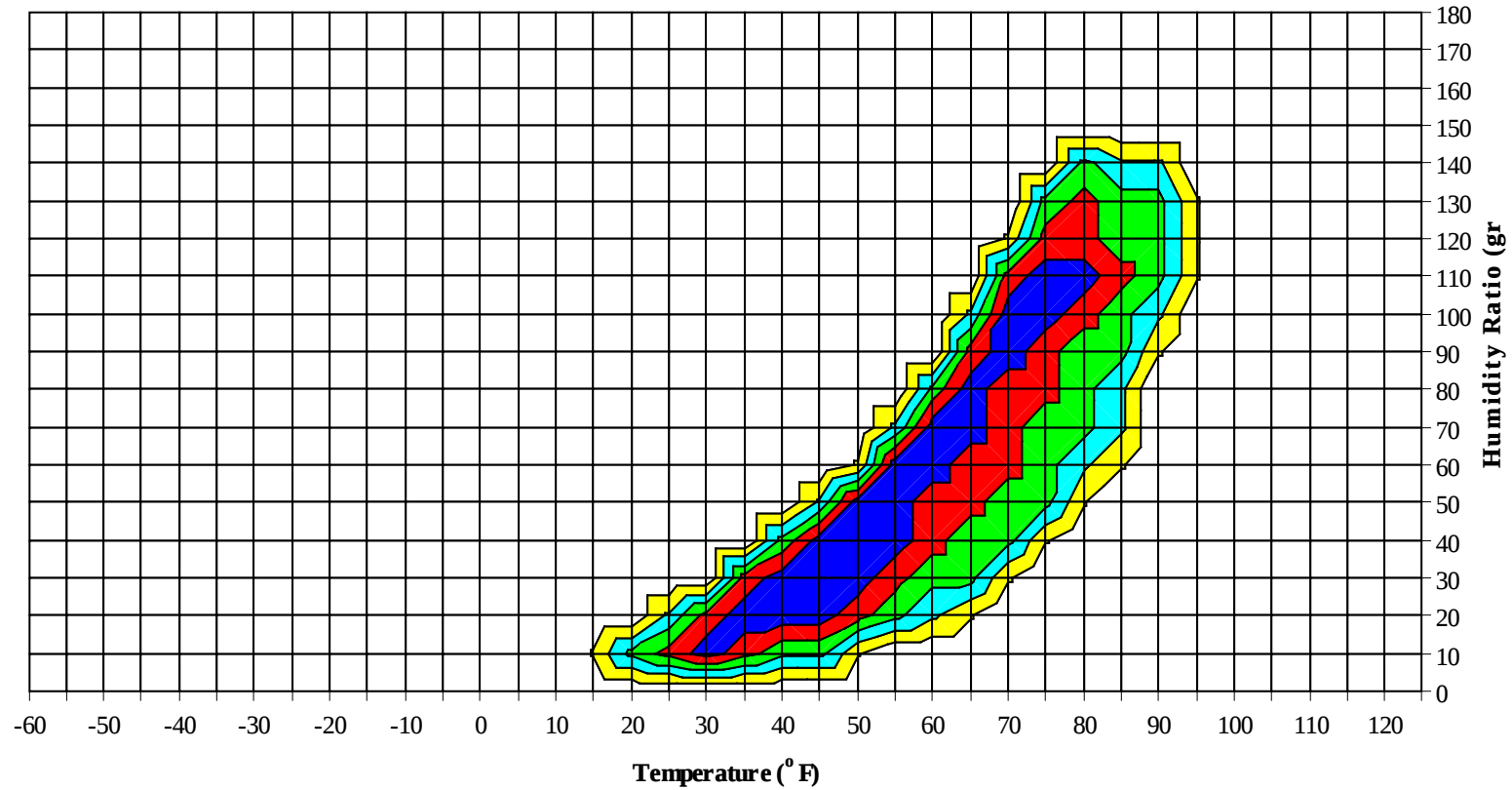
LANGLEY AFB/HAMPTON VA

WMO No. 745980

Average Annual Climate

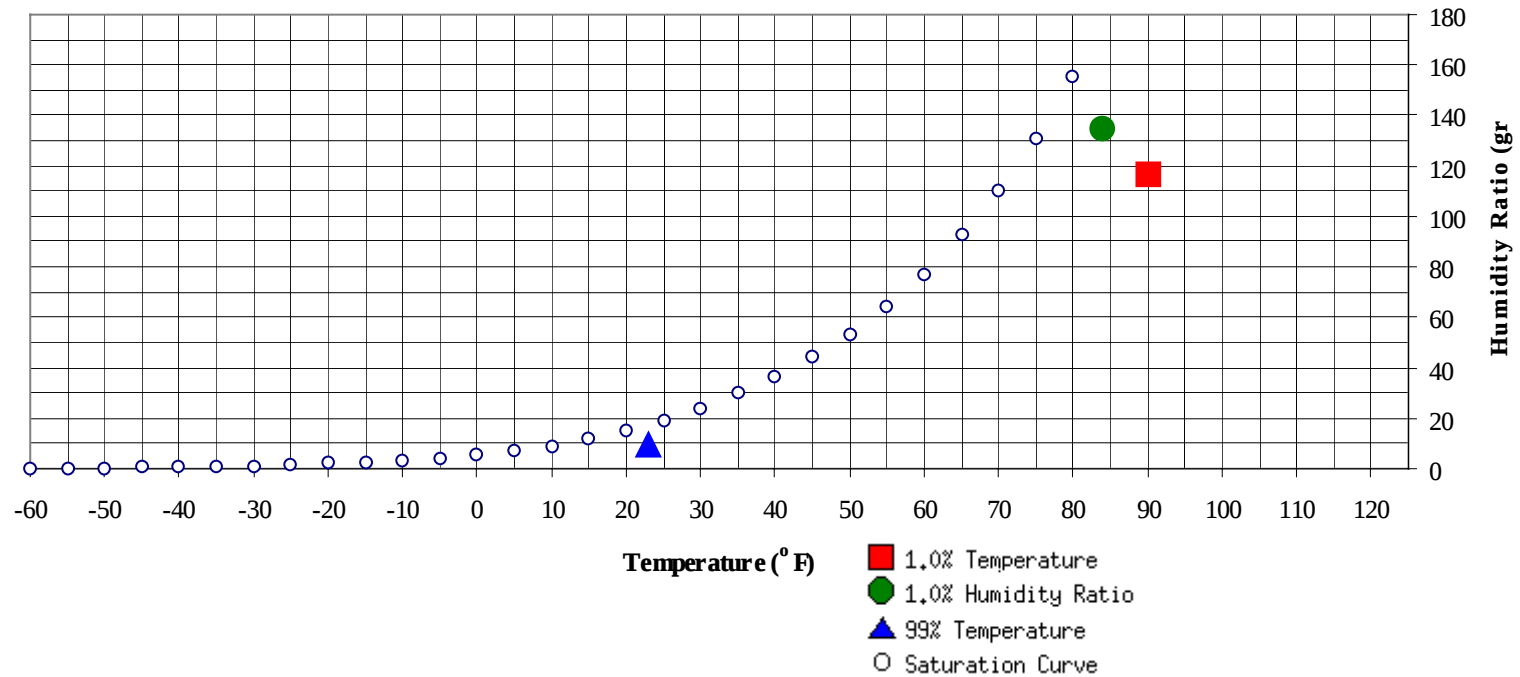


Long Term Psychrometric Summary



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

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	23	9.3	6.9		135.1	83.8	78.1	75.9	41.3

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	90	116.2	76.5	39.9

LANGLEY AFB/HAMPTON VA

WMO No. 745980

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		
100 / 104															
95 / 99															
90 / 94															
85 / 89												0	0	0	66.1
80 / 84							0		0	66.0		3	0	3	65.0
75 / 79		0		0	63.0		1	0	2	63.8	0	7	2	9	62.5
70 / 74		2	0	3	61.5		5	1	5	59.8	1	12	6	18	60.3
65 / 69	1	5	2	8	59.2	2	9	4	14	57.0	6	18	10	34	57.9
60 / 64	4	12	8	24	56.1	4	13	9	26	54.2	14	23	19	56	54.6
55 / 59	9	16	11	35	51.8	9	18	13	40	50.1	18	34	27	79	50.0
50 / 54	13	22	17	52	46.9	14	23	19	55	46.1	29	46	39	113	45.8
45 / 49	21	40	29	90	42.2	21	35	29	85	41.9	46	47	55	148	42.1
40 / 44	40	52	49	141	38.1	32	42	39	113	37.4	52	33	47	132	37.5
35 / 39	49	42	51	142	33.1	45	39	47	131	33.0	45	16	26	88	32.9
30 / 34	44	30	38	112	28.5	44	26	37	107	28.4	26	7	13	46	28.3
25 / 29	33	17	28	78	23.7	31	11	19	61	23.7	9	2	3	14	23.8
20 / 24	19	6	9	35	19.1	14	4	6	23	19.1	2	0	0	2	19.6
15 / 19	8	3	3	15	14.6	5	1	1	7	15.0	0			0	15.3
10 / 14	3	1	2	6	9.8	1	0		1	11.1					
5 / 9	1	0	0	2	5.8	0			0	8.0					
0 / 4	0	0	0	0	0.2										
-5 / -1	0			0	-3.2										

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.

LANGLEY AFB/HAMPTON VA

WMO No. 745980

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		
100 / 104															
95 / 99							0		0	78.0		2	0	2	79.1
90 / 94		1	0	1	67.5		3	0	3	74.4		14	3	17	76.8
85 / 89		3	0	4	66.8		13	3	16	71.8	0	41	14	56	74.3
80 / 84	0	11	3	15	65.2	1	28	11	40	69.3	8	64	34	106	72.1
75 / 79	0	18	8	26	63.3	5	43	25	74	67.0	47	64	65	176	69.6
70 / 74	5	30	17	52	61.2	31	54	45	130	64.3	91	39	70	200	67.0
65 / 69	19	37	28	84	58.4	56	49	53	158	61.0	55	13	38	106	62.7
60 / 64	34	44	40	117	54.9	64	36	54	154	57.1	27	3	12	42	58.2
55 / 59	44	43	48	135	50.7	48	17	37	102	52.9	10	1	3	13	54.3
50 / 54	50	32	47	130	46.8	32	5	16	52	48.8	2		0	3	50.6
45 / 49	46	17	33	96	42.4	10	0	3	13	44.5					
40 / 44	28	3	12	44	38.2	2		0	2	40.6					
35 / 39	11	1	2	14	33.7										
30 / 34	2	0	0	2	29.6										
25 / 29	0			0	23.7										
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -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.

LANGLEY AFB/HAMPTON VA

WMO No. 745980

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		
100 / 104		0		0	80.5		0	0	0	80.8					
95 / 99		7	1	9	79.2		3	1	4	79.3		1	0	1	77.7
90 / 94		35	9	45	77.8		23	4	28	77.6		7	1	7	77.0
85 / 89	2	67	29	98	75.9	1	59	20	80	75.8	0	21	5	26	74.6
80 / 84	31	77	63	170	73.9	21	81	57	159	73.9	2	49	18	70	72.7
75 / 79	105	47	88	239	71.7	94	60	92	246	71.7	36	70	55	161	70.2
70 / 74	79	14	50	143	68.6	88	18	56	163	68.4	75	58	74	207	66.6
65 / 69	25	1	8	34	64.0	31	3	15	49	64.1	59	25	49	133	62.4
60 / 64	6		1	6	59.0	10	0	3	13	59.6	38	9	26	72	57.7
55 / 59	0		0	0	54.4	2	0	0	2	55.0	22	1	10	34	53.9
50 / 54						0			0	54.0	6		1	7	49.7
45 / 49											1		0	1	46.4
40 / 44															
35 / 39															
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -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.

LANGLEY AFB/HAMPTON VA

WMO No. 745980

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		
100 / 104															
95 / 99															
90 / 94		0		0	75.2										
85 / 89		2	0	2	72.7										
80 / 84	0	11	2	13	70.1		1		1	67.8					
75 / 79	2	24	8	33	68.1		8	1	9	65.3		1		1	67.5
70 / 74	15	51	27	92	65.3	2	18	5	25	63.8	0	5	1	7	63.9
65 / 69	40	60	52	153	61.6	11	28	18	57	60.8	4	11	7	22	60.6
60 / 64	51	53	54	158	56.4	24	38	29	90	56.7	9	16	12	38	56.6
55 / 59	48	31	47	126	51.9	34	37	40	111	52.1	14	24	15	52	52.0
50 / 54	40	13	33	86	47.6	35	46	42	122	46.7	21	40	29	90	47.1
45 / 49	29	4	18	51	43.3	43	38	43	124	42.2	38	52	46	135	42.4
40 / 44	15	1	7	23	39.0	38	19	34	90	37.6	44	44	49	137	37.8
35 / 39	5	0	1	6	34.8	29	7	18	54	33.3	46	30	42	118	32.6
30 / 34	0		0	1	31.3	17	1	9	27	29.1	37	19	28	83	28.3
25 / 29						5	0	2	7	24.5	22	6	14	41	23.6
20 / 24						0		0	1	21.1	9	2	4	15	19.3
15 / 19											2	1	1	3	14.9
10 / 14											1	0	0	1	9.4
5 / 9											0	0	0	1	5.5
0 / 4															
-5 / -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.

LANGLEY AFB/HAMPTON VA

WMO No. 745980

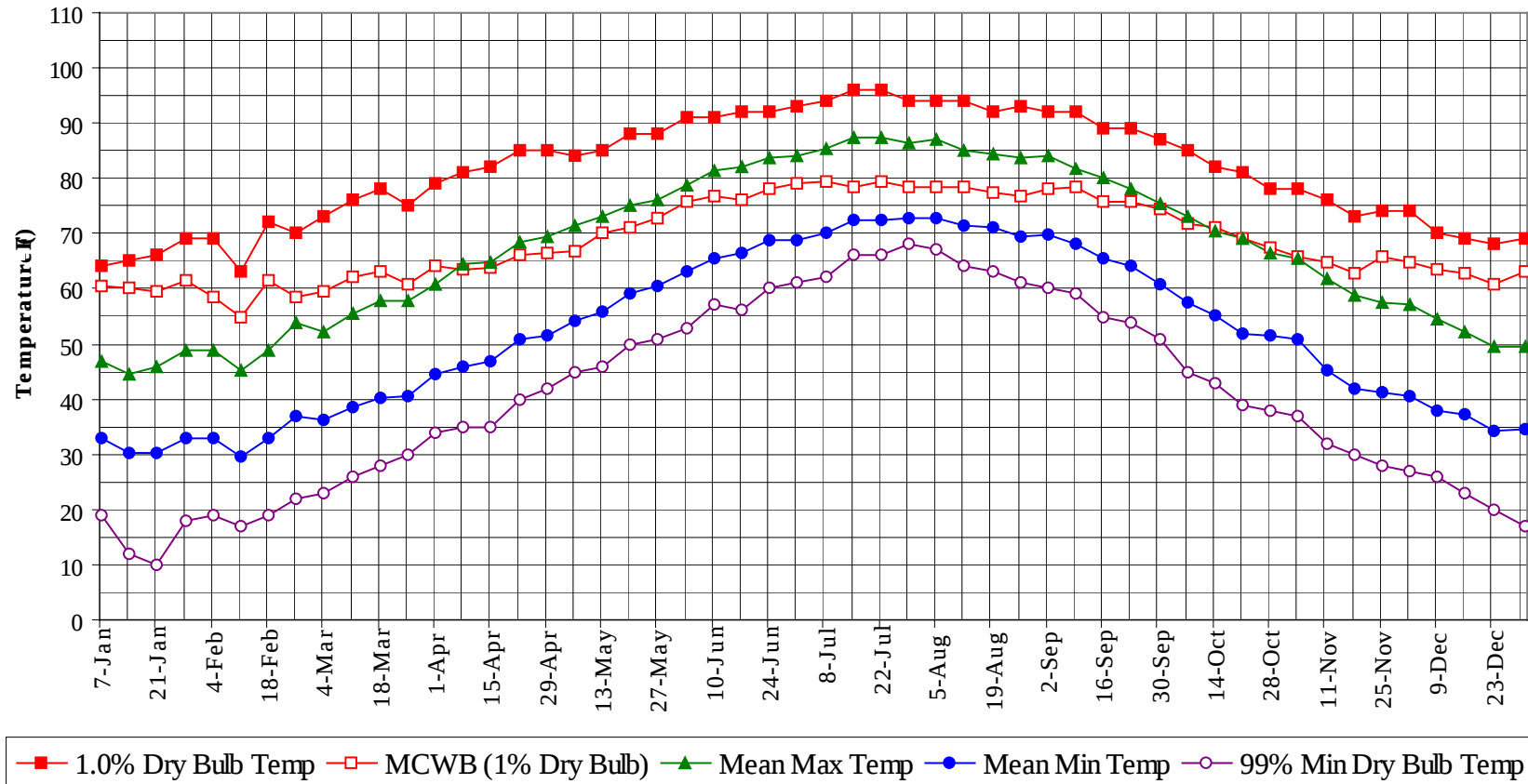
Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1967 to 1996

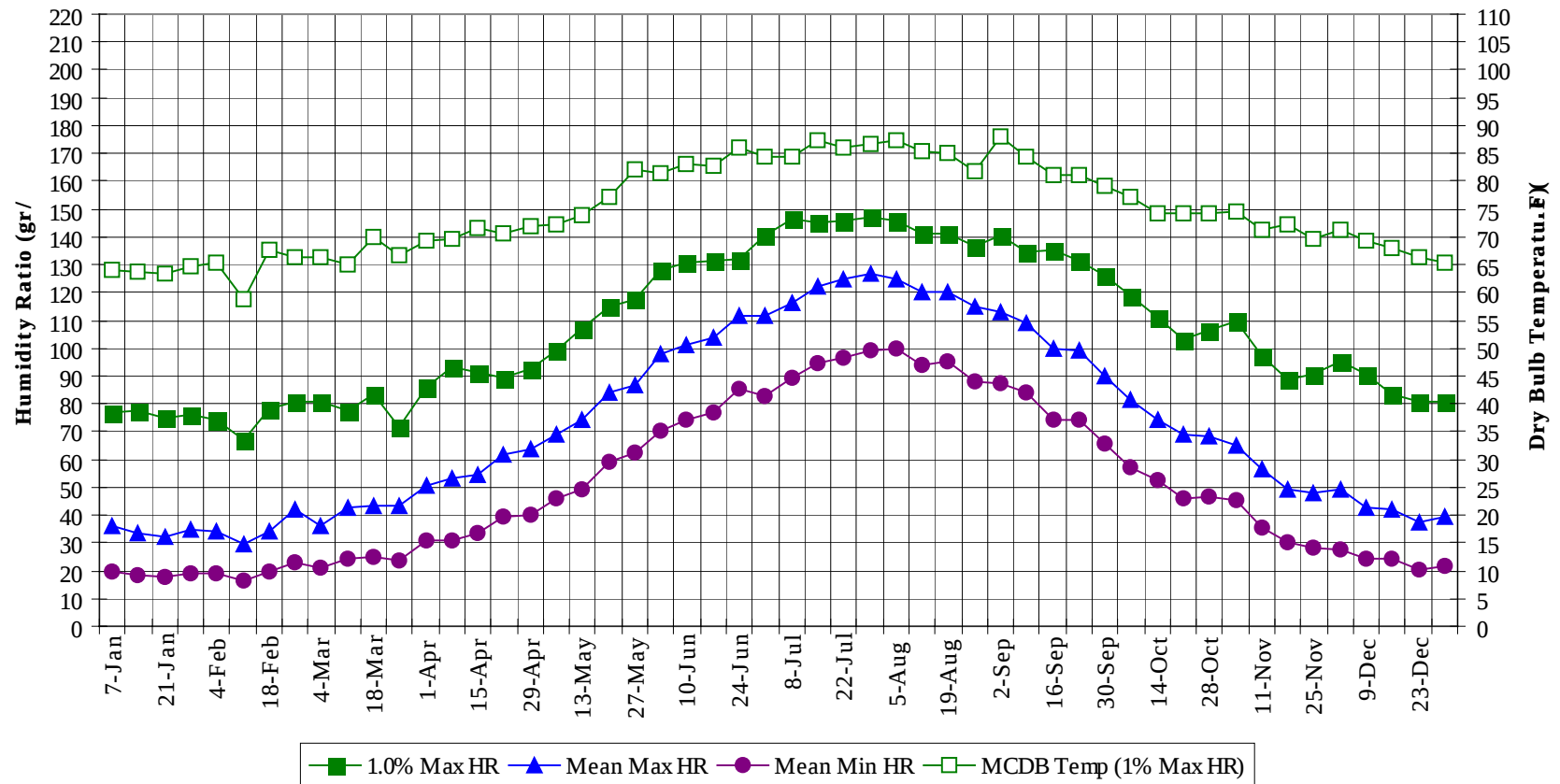
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
100 / 104		1	0	1	80.7
95 / 99		14	2	16	79.1
90 / 94		83	18	101	77.3
85 / 89	3	208	73	284	75.1
80 / 84	63	328	189	579	72.7
75 / 79	290	343	345	977	70.2
70 / 74	389	304	354	1046	66.3
65 / 69	309	260	283	851	61.3
60 / 64	283	246	266	795	56.4
55 / 59	257	221	250	727	51.7
50 / 54	241	226	243	709	46.9
45 / 49	256	233	256	744	42.3
40 / 44	251	194	237	682	37.8
35 / 39	230	136	188	554	33.0
30 / 34	171	83	126	380	28.4
25 / 29	101	36	65	202	23.7
20 / 24	45	11	19	76	19.2
15 / 19	16	5	5	25	14.8
10 / 14	4	1	2	8	9.8
5 / 9	2	0	0	2	5.8
0 / 4	0	0	0	0	0.2
-5 / -1	0			0	-3.2

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



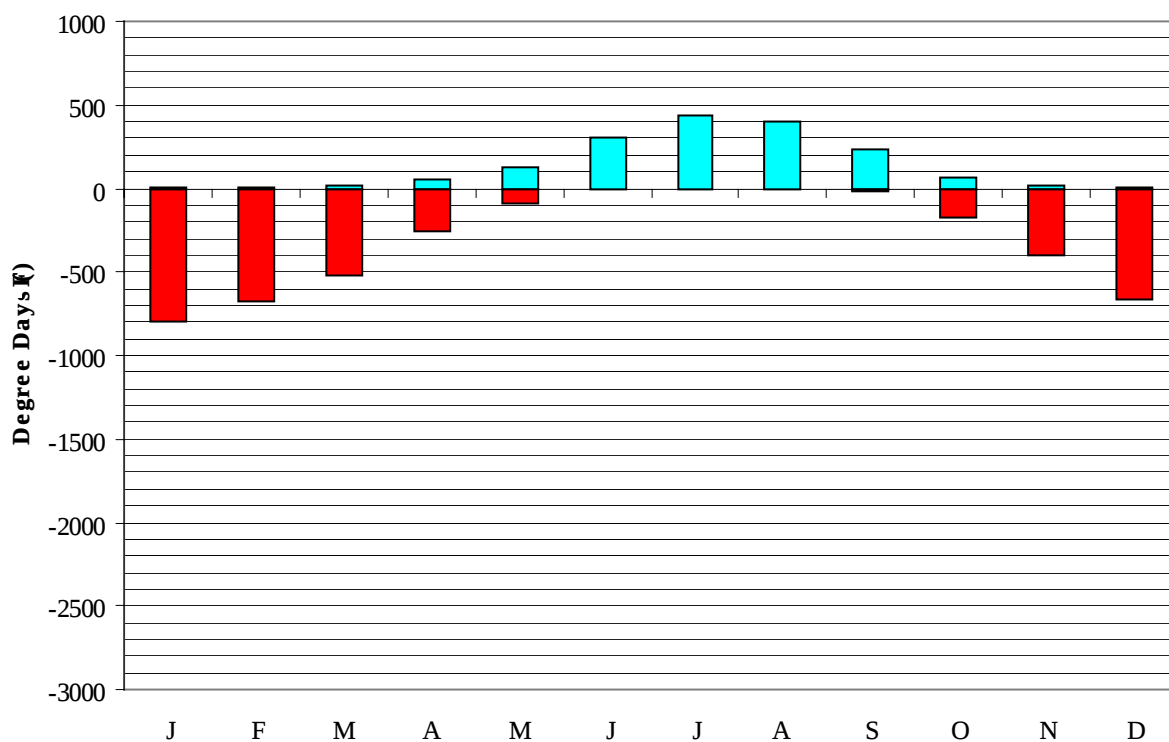
Long Term Humidity and Dry Bulb Temperature Summary



LANGLEY AFB/HAMPTON VA**WMO No. 745980****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	64.0	60.5	46.8	33.1	19.0	77.0	63.9	36.0	19.8
14-Jan	65.0	60.2	44.4	30.4	12.0	77.7	63.6	33.4	18.2
21-Jan	66.0	59.7	46.0	30.3	10.0	74.9	63.4	32.2	17.7
28-Jan	69.0	61.3	49.0	32.9	18.0	76.3	64.6	34.8	19.2
4-Feb	69.0	58.5	48.8	32.9	19.0	74.2	65.2	34.5	18.9
11-Feb	63.0	54.9	45.1	29.7	17.0	67.2	58.8	29.3	16.1
18-Feb	72.0	61.5	48.7	32.8	19.0	78.4	67.7	34.2	19.5
25-Feb	70.0	58.5	54.0	36.9	22.0	80.5	66.4	41.8	23.0
4-Mar	73.0	59.4	52.2	36.1	23.0	80.5	66.2	36.2	21.0
11-Mar	76.0	62.0	55.6	38.6	26.0	77.7	64.9	42.9	24.4
18-Mar	78.0	63.1	57.7	40.1	28.0	83.3	69.9	43.5	24.9
25-Mar	75.0	60.9	57.8	40.5	30.0	71.4	66.8	43.3	23.7
1-Apr	79.0	64.2	60.9	44.4	34.0	86.1	69.4	50.5	30.8
8-Apr	81.0	63.3	64.3	46.0	35.0	93.1	69.5	52.9	30.9
15-Apr	82.0	63.7	64.9	46.9	35.0	91.0	71.7	54.7	33.2
22-Apr	85.0	66.1	68.6	50.8	40.0	89.6	70.5	61.6	39.5
29-Apr	85.0	66.5	69.6	51.6	42.0	92.4	72.0	64.0	40.3
6-May	84.0	66.8	71.3	54.0	45.0	99.4	72.2	69.0	46.2
13-May	85.0	70.0	73.2	55.8	46.0	107.1	73.9	74.5	49.1
20-May	88.0	71.1	75.1	59.0	50.0	114.8	77.2	84.0	59.3
27-May	88.0	72.9	76.1	60.6	51.0	117.6	82.2	86.8	62.3
3-Jun	91.0	75.9	78.9	63.1	53.0	128.1	81.5	97.8	70.4
10-Jun	91.0	76.8	81.5	65.6	57.0	130.9	83.0	101.2	74.3
17-Jun	92.0	76.0	82.0	66.5	56.0	131.6	82.7	103.5	76.6
24-Jun	92.0	78.0	83.6	68.8	60.0	132.3	85.9	111.3	85.3
1-Jul	93.0	79.1	84.2	68.9	61.0	140.7	84.3	111.8	82.8
8-Jul	94.0	79.6	85.3	70.2	62.0	146.3	84.5	116.0	89.1
15-Jul	96.0	78.5	87.3	72.3	66.0	144.9	87.3	122.1	94.3
22-Jul	96.0	79.3	87.4	72.5	66.0	145.6	86.0	124.9	96.5
29-Jul	94.0	78.4	86.4	72.9	68.0	147.0	86.5	126.8	99.4
5-Aug	94.0	78.5	86.9	72.7	67.0	145.6	87.2	124.8	99.8
12-Aug	94.0	78.3	85.2	71.4	64.0	141.4	85.4	120.3	94.2
19-Aug	92.0	77.3	84.4	71.3	63.0	141.4	85.0	120.3	95.5
26-Aug	93.0	76.9	83.6	69.6	61.0	136.5	81.9	114.6	87.9
2-Sep	92.0	78.0	84.1	69.7	60.0	140.7	87.9	112.9	87.7
9-Sep	92.0	78.3	81.8	68.2	59.0	134.4	84.4	108.8	84.3
16-Sep	89.0	75.7	80.1	65.4	55.0	135.1	81.2	100.1	74.0
23-Sep	89.0	75.7	78.1	64.2	54.0	131.6	81.1	99.3	74.1
30-Sep	87.0	74.3	75.4	60.9	51.0	126.0	79.1	90.0	65.4
7-Oct	85.0	71.9	73.1	57.4	45.0	119.0	77.1	81.5	56.9
14-Oct	82.0	71.0	70.4	55.1	43.0	111.3	74.3	74.4	52.7
21-Oct	81.0	69.1	69.0	51.9	39.0	102.9	74.2	68.6	45.8
28-Oct	78.0	67.6	66.6	51.4	38.0	106.4	74.3	68.6	46.7
4-Nov	78.0	65.8	65.6	50.8	37.0	109.9	74.4	64.9	45.0
11-Nov	76.0	64.6	61.8	45.4	32.0	97.3	71.2	56.4	35.2
18-Nov	73.0	62.9	59.0	41.9	30.0	88.9	72.2	49.4	30.2
25-Nov	74.0	65.7	57.5	41.2	28.0	90.3	69.5	47.7	28.2
2-Dec	74.0	64.6	57.2	40.5	27.0	95.2	71.2	49.4	27.9
9-Dec	70.0	63.4	54.5	37.8	26.0	90.3	69.3	43.0	24.3
16-Dec	69.0	62.9	52.3	37.3	23.0	83.3	68.0	42.3	24.5
23-Dec	68.0	60.9	49.5	34.2	20.0	80.5	66.2	37.6	20.4
31-Dec	69.0	63.1	49.6	34.5	17.0	80.5	65.4	39.4	21.7

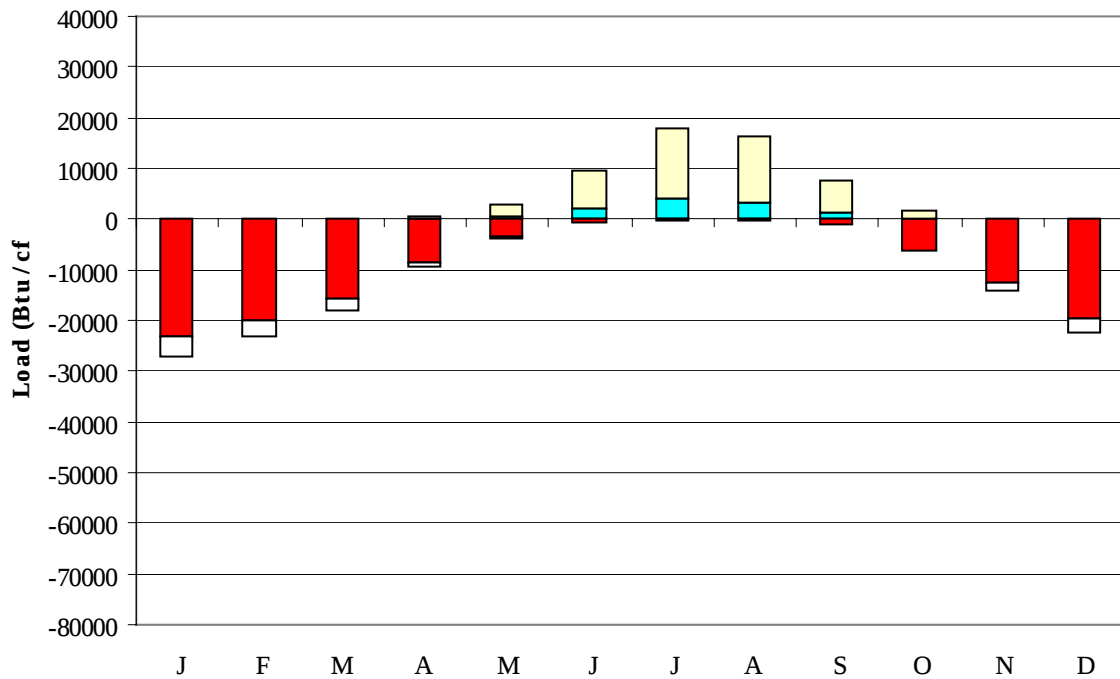
Degree Days, Heating and Cooling (Base 65°F)



■ Mean Cooling Degree Days ■ Mean Heating Degree Days

	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	1	798
FEB	3	682
MAR	14	524
APR	48	263
MAY	131	91
JUN	301	10
JUL	435	1
AUG	396	2
SEP	232	23
OCT	62	169
NOV	16	407
DEC	4	660
ANN	1644	3630

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	-23073	12	-3991
FEB	4	-19836	17	-3474
MAR	42	-15843	38	-2181
APR	210	-8689	201	-623
MAY	679	-3602	2226	-31
JUN	2160	-567	7617	0
JUL	3965	-70	13834	0
AUG	3261	-141	12954	0
SEP	1267	-1127	6550	0
OCT	175	-5988	1453	-160
NOV	22	-12674	299	-1257
DEC	1	-19452	65	-2903
ANN	11786	-111062	45266	-14620

Average Annual Solar Radiation – Nearest Available Site

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

City: NORFOLK
 State: VA
 WBAN No: 13737
 Lat(N): 36.9
 Long(W): 76.2
 Elev(ft): 30

Stn Type: Secondary

SHADING GEOMETRY IN DIMENSIONLESS UNITS

Window: 1

Overhang: 0.446

Vert Gap: 0.302

AVERAGE INCIDENT SOLAR RADIATION (Btu/sq.ft./day), Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Global	710	960	1290	1630	1830	1950	1860	1710	1420	1100	800	640	1330
	Std Dev	57	89	92	132	103	105	129	124	88	102	79	42	32
	Minimum	600	760	1080	1370	1580	1780	1640	1460	1230	830	610	550	1270
	Maximum	820	1140	1460	1930	2030	2130	2130	1940	1600	1260	930	710	1390
	Diffuse	310	410	530	670	790	840	840	760	620	460	330	290	570
Clear Day	Global	1020	1360	1810	2240	2500	2580	2500	2260	1880	1430	1060	900	1800
NORTH	Global	210	270	340	440	530	600	570	470	380	300	220	190	380
	Diffuse	210	270	340	430	490	520	510	460	380	300	220	190	360
Clear Day	Global	200	250	330	430	580	670	620	480	370	290	210	180	380
EAST	Global	470	610	780	940	990	1050	1000	950	820	680	530	430	770
	Diffuse	250	320	420	520	590	620	610	570	480	370	280	230	440
Clear Day	Global	750	940	1150	1320	1410	1410	1370	1290	1150	940	750	670	1100
SOUTH	Global	1080	1140	1090	950	790	720	740	880	1030	1160	1140	1040	980
	Diffuse	340	410	470	520	540	550	550	520	450	370	330	330	470
Clear Day	Global	1950	1950	1720	1310	980	830	880	1140	1500	1780	1870	1880	1480
WEST	Global	480	610	780	920	1000	1040	1000	940	840	680	520	430	770
	Diffuse	250	330	420	520	590	630	610	570	480	370	280	230	440
Clear Day	Global	750	940	1150	1320	1410	1410	1370	1290	1150	940	750	670	1100

Average Annual Solar Heat and Illumination – Nearest Available Site

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

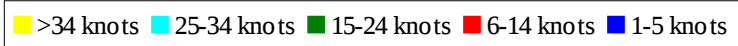
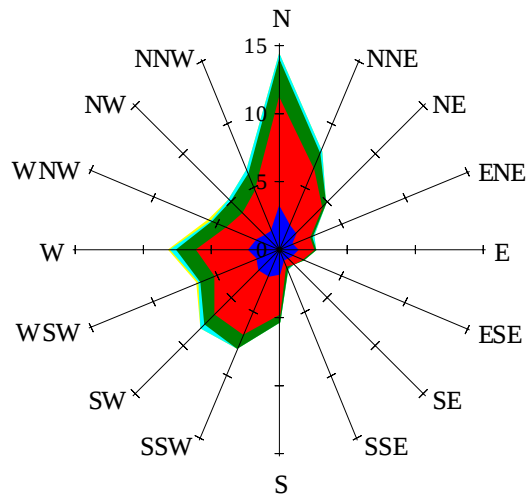
AVERAGE TRANSMITTED SOLAR RADIATION (Btu/sq.ft./day) FOR DOUBLE GLAZING, Percentage Uncertainty = 9		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
HORIZ	Unshaded	470	660	920	1180	1330	1420	1360	1240	1020	770	540	410	940
NORTH	Unshaded	140	190	240	300	350	390	370	320	270	210	160	130	260
	Shaded	130	170	220	270	320	350	340	290	240	190	140	120	230
EAST	Unshaded	330	430	550	670	700	740	710	670	580	480	370	290	540
	Shaded	300	390	490	600	610	650	620	590	520	430	340	270	480
SOUTH	Unshaded	810	830	750	600	480	430	450	550	690	820	850	780	670
	Shaded	790	770	610	420	350	350	350	380	520	740	830	770	570
WEST	Unshaded	330	430	550	650	710	730	700	670	590	480	360	300	540
	Shaded	300	390	500	580	620	640	620	590	530	430	330	270	480

AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	41	75	85	67	28	45	83	100	96	68
	M.Cloudy	22	44	49	40	17	29	57	72	69	47
NORTH	M.Clear	10	14	15	13	8	20	17	17	17	15
	M.Cloudy	9	15	16	14	7	14	18	19	19	15
EAST	M.Clear	75	58	15	13	8	73	72	32	17	15
	M.Cloudy	24	30	16	14	7	34	45	27	19	15
SOUTH	M.Clear	38	70	79	64	27	12	28	42	38	18
	M.Cloudy	16	34	39	31	12	11	23	33	31	17
WEST	M.Clear	10	14	22	67	67	12	17	17	51	77
	M.Cloudy	9	15	19	33	22	11	18	19	39	45
M.Clear	(% hrs)	40	38	37	36	37	39	39	36	34	34

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	27	67	86	79	48	17	44	51	33	3
	M.Cloudy	16	42	57	54	31	10	26	29	19	3
NORTH	M.Clear	9	15	17	16	12	6	10	11	8	2
	M.Cloudy	7	15	18	17	12	4	10	11	8	1
EAST	M.Clear	59	69	29	16	12	45	41	11	8	2
	M.Cloudy	21	35	24	17	12	12	19	11	8	1
SOUTH	M.Clear	19	53	71	64	36	40	81	90	65	9
	M.Cloudy	10	29	43	40	21	12	31	35	23	3
WEST	M.Clear	9	15	17	52	71	6	10	22	51	13
	M.Cloudy	7	15	18	34	35	4	10	14	19	4
M.Clear	(% hrs)	40	41	39	38	40	36	34	35	36	38

Wind Summary - December, January, and February

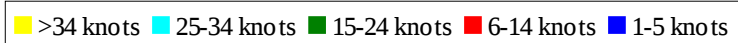
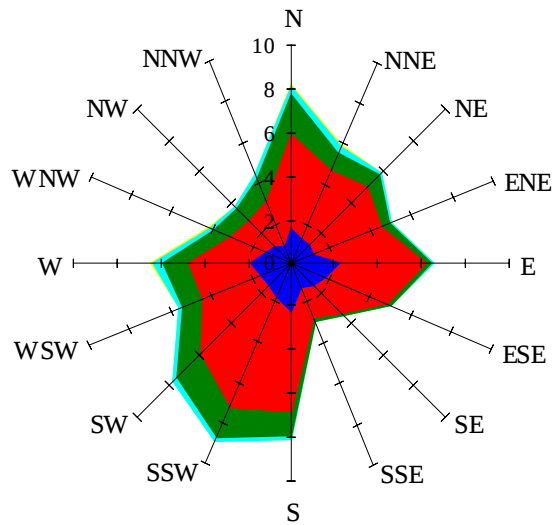
Labels of Percent Frequency on North Axis



Percent Calm = 10.63

Wind Summary - March, April, and May

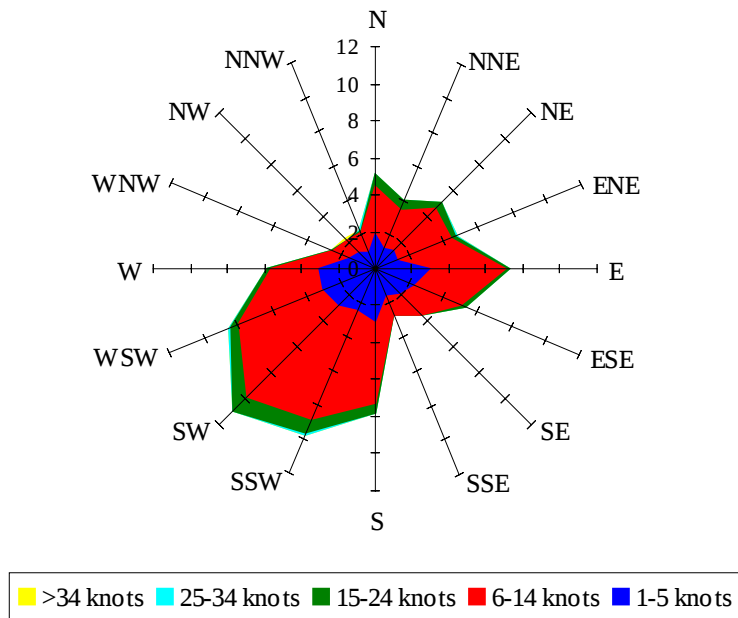
Labels of Percent Frequency on North Axis



Percent Calm = 8.77

Wind Summary - June, July, and August

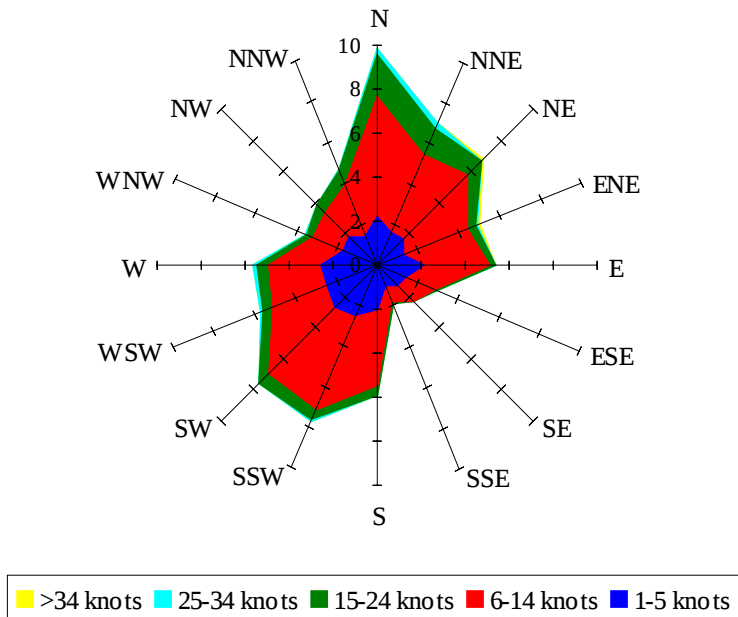
Labels of Percent Frequency on North Axis



Percent Calm = 12.61

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 14.08