

JOHNSTON ISLAND PN

Latitude = 16.73 N

WMO No. 912750

Longitude = 169.50 W

Elevation = 16 feet

Period of Record = 1973 to 1996

Average Pressure = 29.88 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	88	78	133	14.3	E
0.4% Occurrence	88	78	133	14.3	E
1.0% Occurrence	87	78	132	14.3	E
2.0% Occurrence	86	78	130	14.3	E
Mean Daily Range	5	-	-	-	-
97.5% Occurrence	74	70	102	16.7	E
99.0% Occurrence	73	69	100	16.4	ENE
99.6% Occurrence	72	68	98	16.7	ENE
Median of Extreme Lows	70	68	97	16.5	NE
	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	81	86	148	14.3	E
0.4% Occurrence	80	85	143	14.6	E
1.0% Occurrence	79	83	138	14.9	E
2.0% Occurrence	79	83	138	14.9	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	151	83	1.00	14.7	E
0.4% Occurrence	147	83	0.97	14.6	E
1.0% Occurrence	146	83	0.97	14.6	E
2.0% Occurrence	141	82	0.94	14.9	E
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	4230	5884	8644

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
10	N/A	N/A	11.0 + 3.9
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 (#)
81.9	N/A	N/A	0

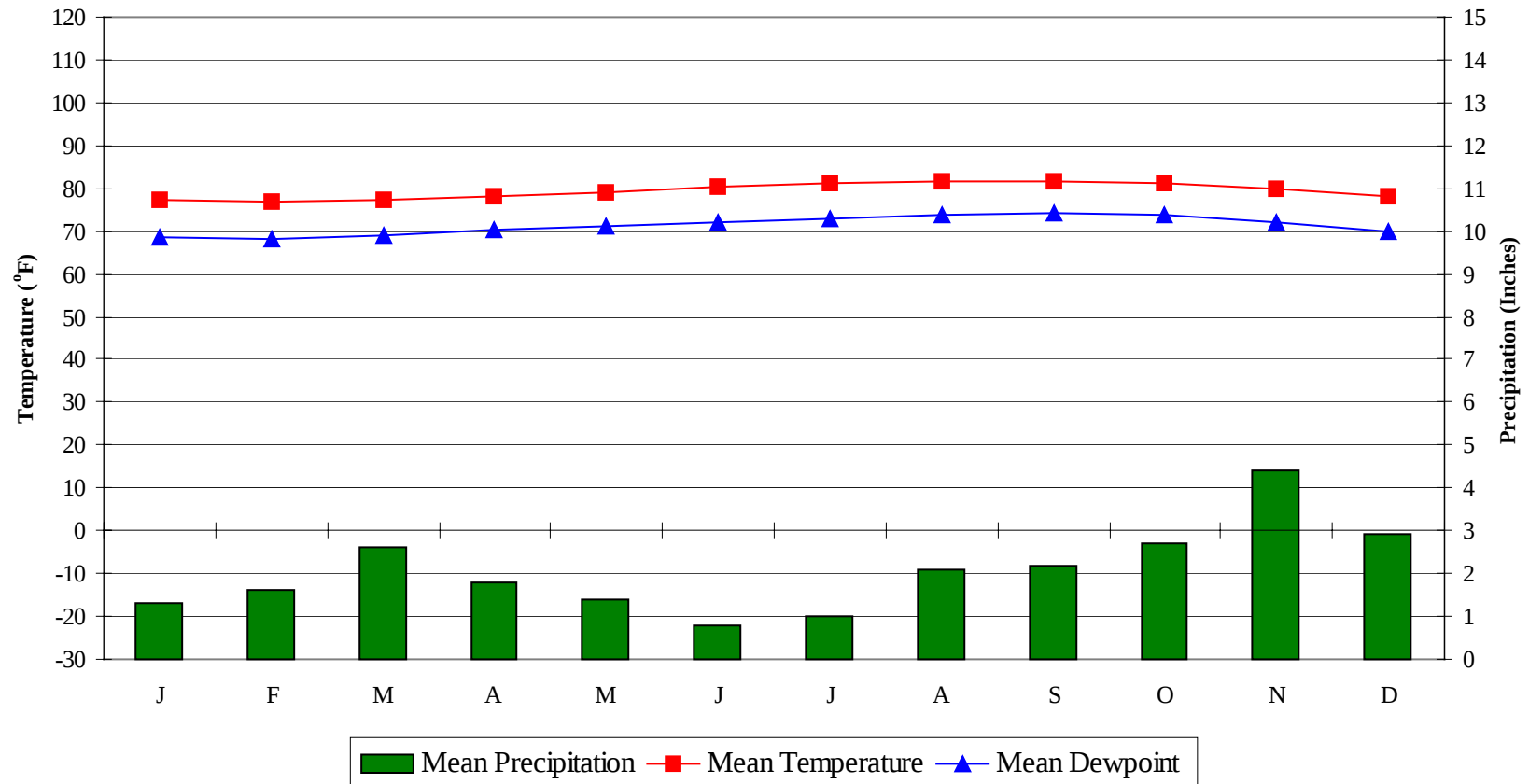
*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

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Average Annual Climate

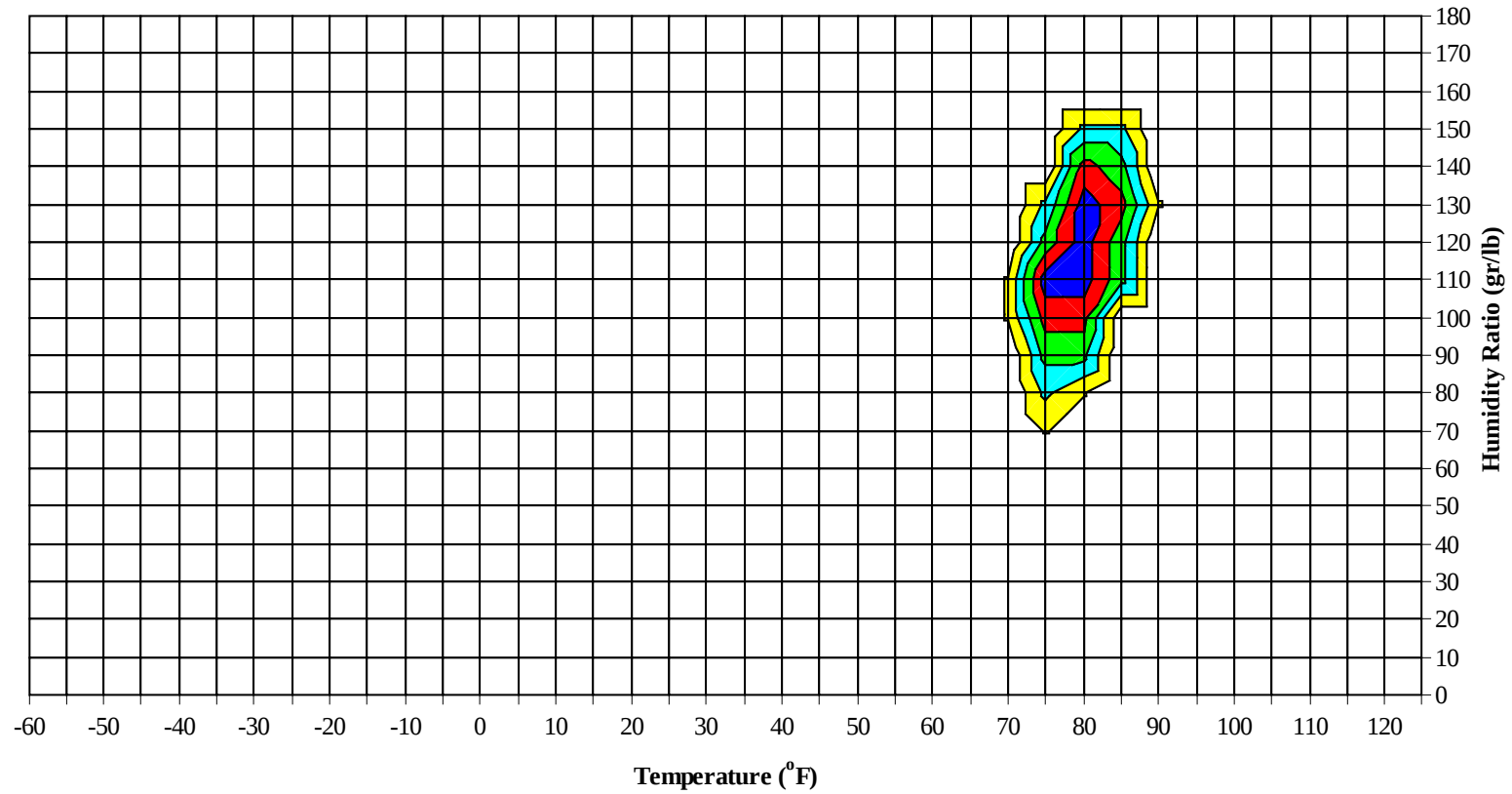


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Long Term Psychrometric Summary



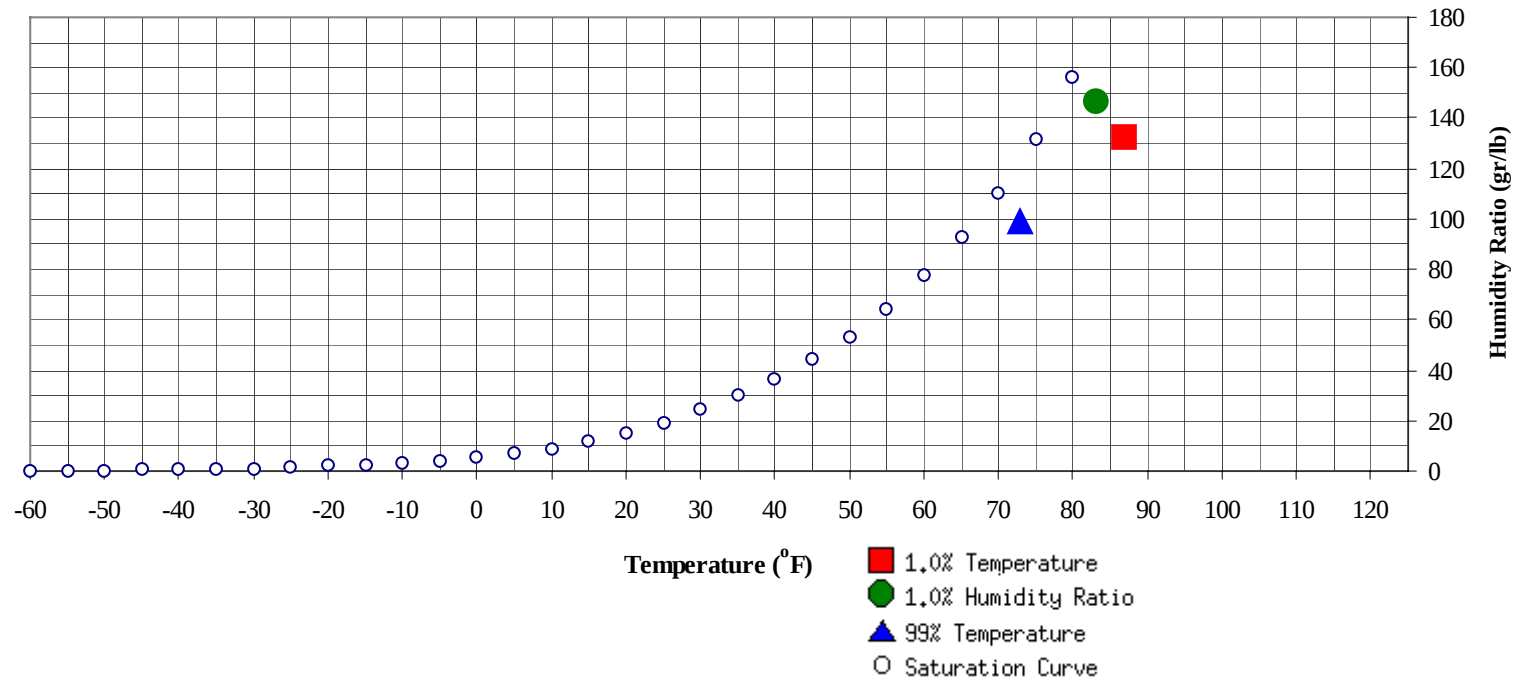
- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

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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)
	73	99	33.0		146.3	83	79.4	78.1	42.9

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	87	132.6	78.4	41.7

WMO No. 912750

Period of Record = 1973 to 1996

[illegible]

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.

WMO No. 912750

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[illegible]

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

Period of Record = 1973 to 1996

Annual Totals

[illegible]

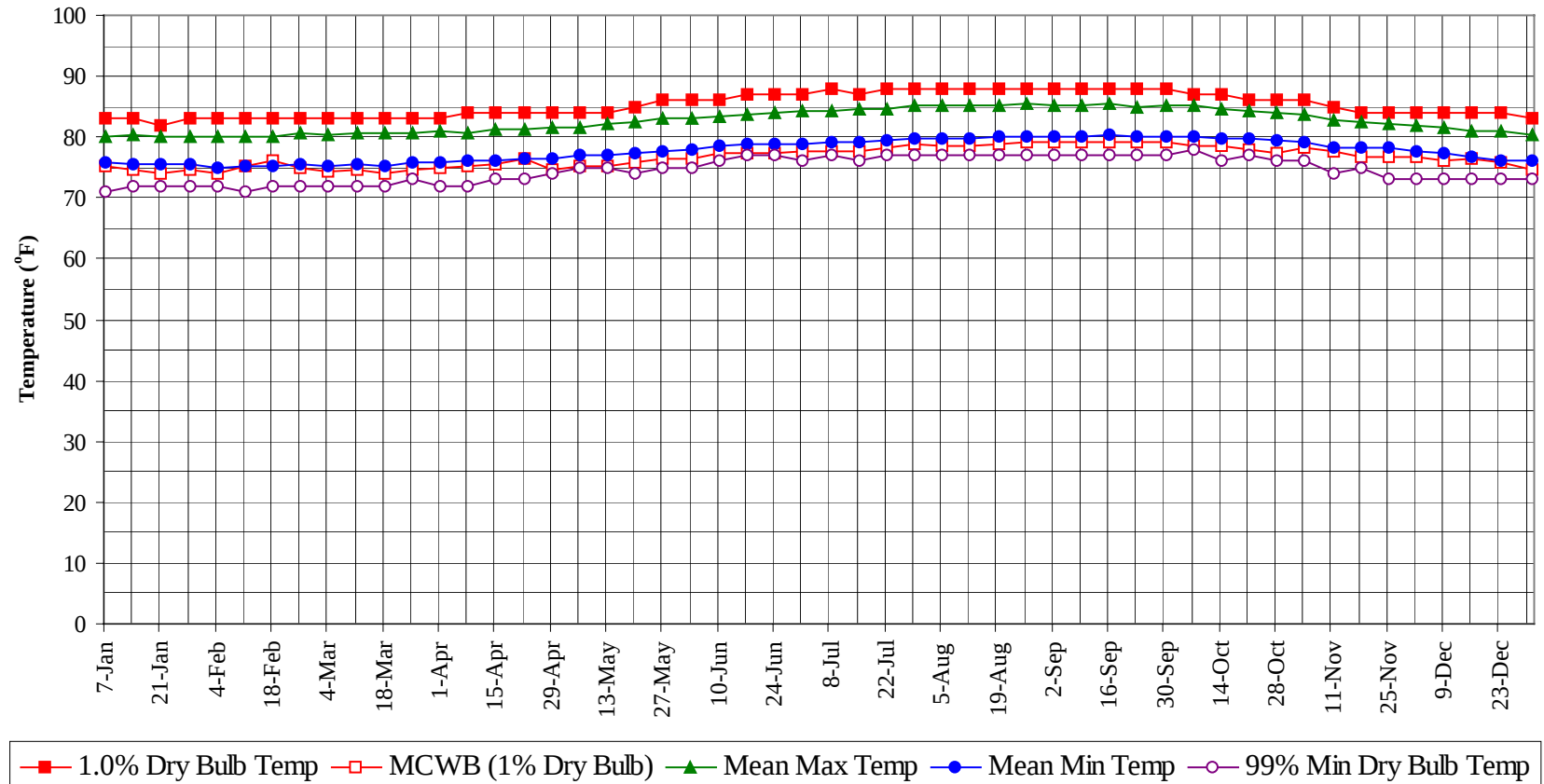
Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary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

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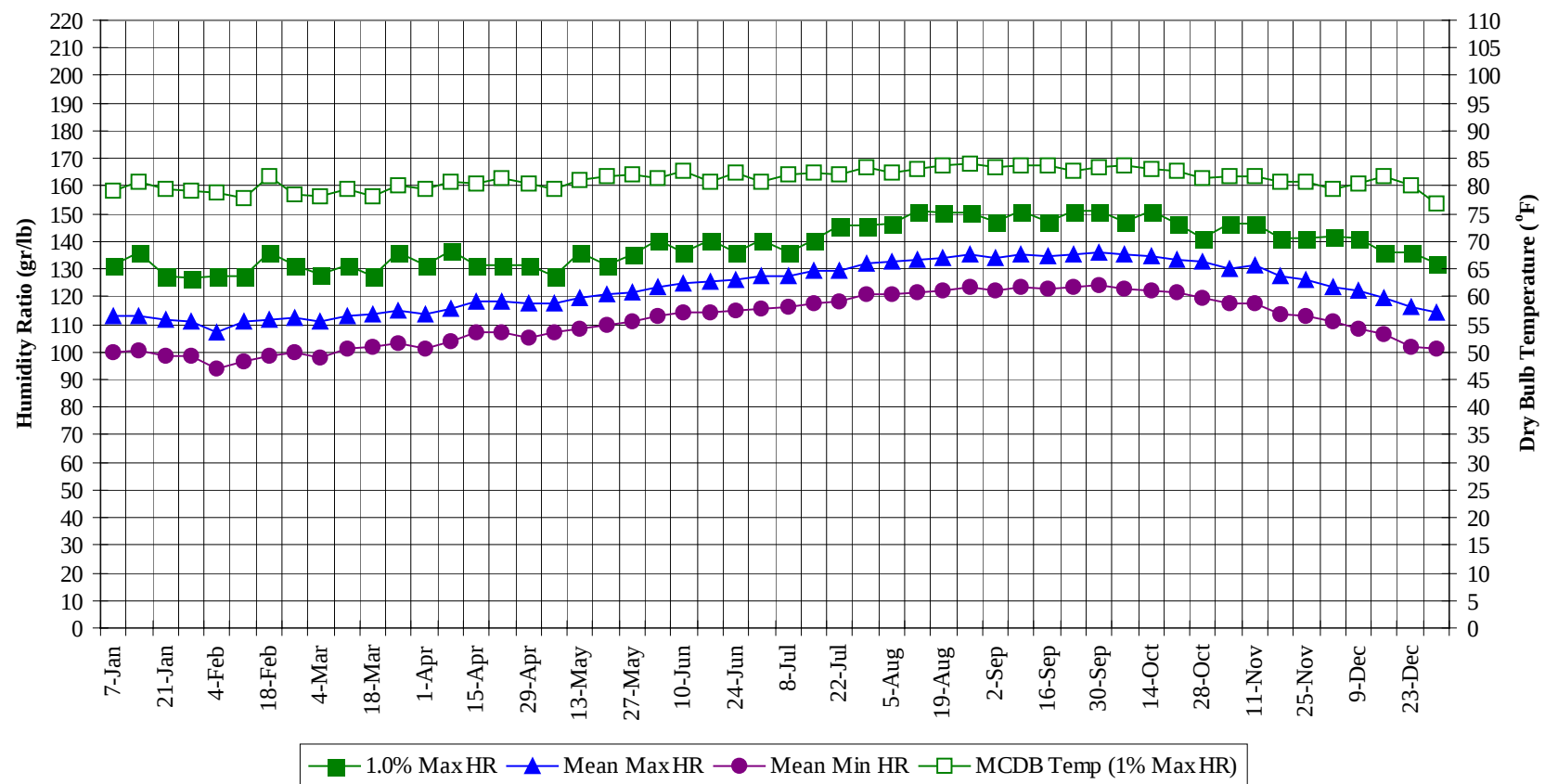
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Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary



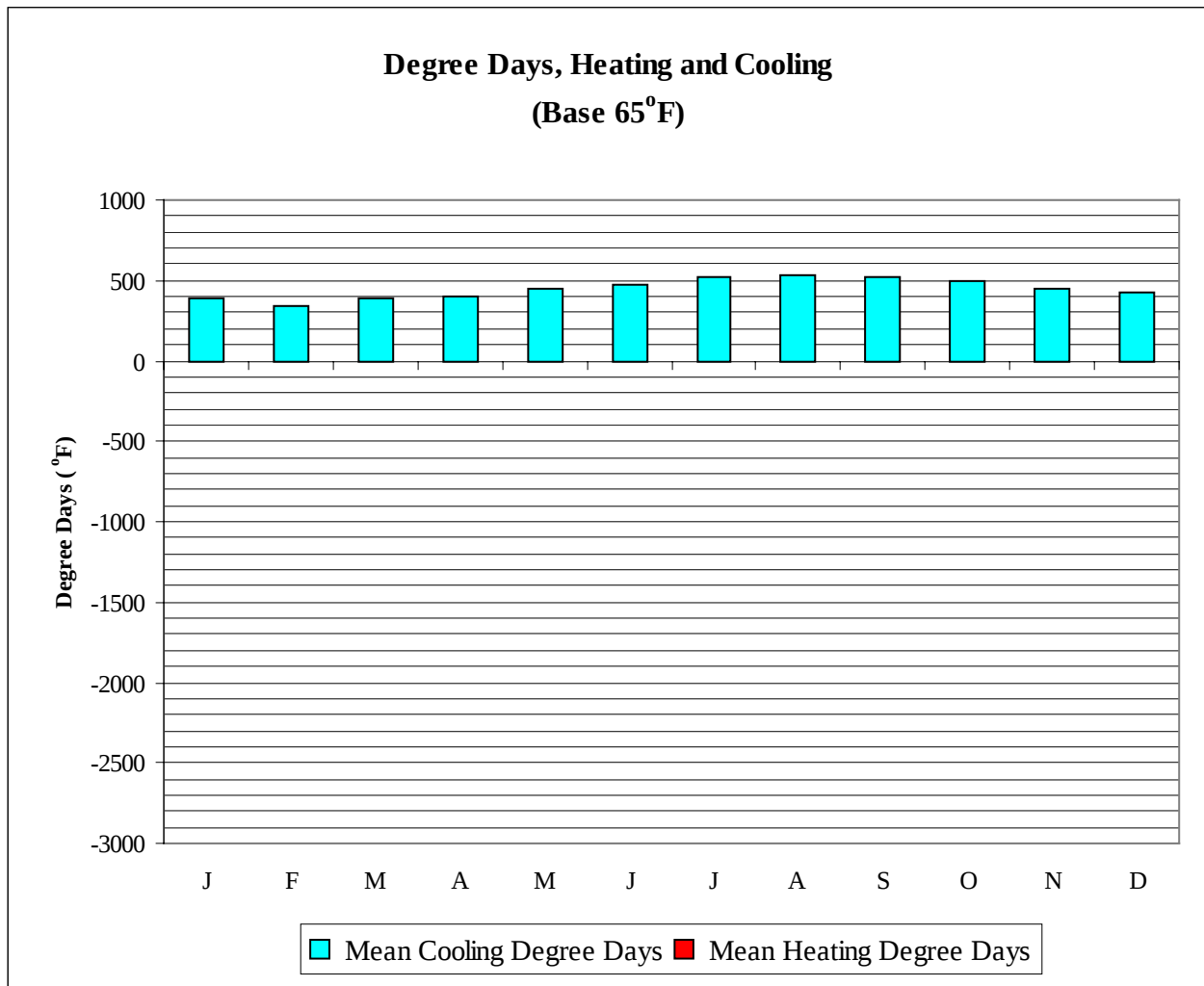
JOHNSTON ISLAND**PN****WMO No. 912750****Long Term Dry Bulb Temperature and Humidity Summary**

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	83.0	75.2	80.1	75.8	71.0	131.6	79.1	113.2	99.7
14-Jan	83.0	74.7	80.2	75.6	72.0	135.8	80.8	112.9	100.2
21-Jan	82.0	73.9	80.0	75.4	72.0	127.4	79.5	111.4	98.4
28-Jan	83.0	74.5	80.2	75.4	72.0	126.7	79.2	111.2	98.2
4-Feb	83.0	74.1	80.2	75.1	72.0	127.4	78.7	107.0	93.9
11-Feb	83.0	75.2	80.2	75.1	71.0	127.4	77.9	110.9	96.8
18-Feb	83.0	76.2	80.1	75.3	72.0	135.8	81.6	111.4	98.2
25-Feb	83.0	74.8	80.5	75.4	72.0	131.6	78.5	112.2	100.1
4-Mar	83.0	74.3	80.3	75.2	72.0	128.1	78.1	110.9	97.7
11-Mar	83.0	74.7	80.6	75.7	72.0	131.6	79.4	112.8	101.3
18-Mar	83.0	74.1	80.5	75.4	72.0	127.4	78.3	113.7	101.6
25-Mar	83.0	74.6	80.7	75.9	73.0	135.8	80.1	115.0	102.8
1-Apr	83.0	75.0	80.8	75.8	72.0	131.6	79.5	113.6	101.2
8-Apr	84.0	75.2	80.8	76.0	72.0	136.5	80.9	115.6	104.0
15-Apr	84.0	75.4	81.1	76.1	73.0	131.6	80.4	118.1	106.9
22-Apr	84.0	76.5	81.3	76.5	73.0	131.6	81.3	118.2	107.0
29-Apr	84.0	74.6	81.5	76.6	74.0	131.6	80.5	117.2	105.4
6-May	84.0	75.3	81.7	77.0	75.0	127.4	79.5	117.7	106.8
13-May	84.0	75.4	82.1	77.2	75.0	135.8	81.3	119.7	108.3
20-May	85.0	76.0	82.6	77.2	74.0	131.6	81.8	121.1	109.9
27-May	86.0	76.5	83.0	77.6	75.0	135.1	82.1	121.4	110.9
3-Jun	86.0	76.4	83.2	78.0	75.0	140.7	81.3	123.5	112.8
10-Jun	86.0	77.3	83.5	78.5	76.0	135.8	82.6	125.1	114.1
17-Jun	87.0	77.4	83.8	78.8	77.0	140.7	80.7	125.3	114.4
24-Jun	87.0	77.4	83.9	78.8	77.0	135.8	82.5	126.1	114.9
1-Jul	87.0	77.6	84.2	79.0	76.0	140.7	80.8	127.2	115.8
8-Jul	88.0	77.6	84.4	79.2	77.0	135.8	82.2	127.5	116.5
15-Jul	87.0	77.7	84.5	79.2	76.0	140.7	82.4	129.5	117.5
22-Jul	88.0	78.3	84.6	79.4	77.0	145.6	82.0	129.1	118.2
29-Jul	88.0	79.0	85.1	79.8	77.0	145.6	83.5	132.0	120.7
5-Aug	88.0	78.6	85.1	79.9	77.0	146.3	82.5	132.7	120.6
12-Aug	88.0	78.6	85.3	79.8	77.0	151.2	82.9	133.1	121.4
19-Aug	88.0	78.7	85.2	80.0	77.0	150.5	83.9	134.1	122.3
26-Aug	88.0	79.1	85.5	80.2	77.0	150.5	84.1	135.1	123.6
2-Sep	88.0	79.2	85.1	80.1	77.0	147.0	83.4	133.7	121.9
9-Sep	88.0	79.1	85.3	80.2	77.0	151.2	83.6	135.0	123.6
16-Sep	88.0	79.2	85.4	80.3	77.0	147.0	83.9	134.5	122.9
23-Sep	88.0	79.3	85.0	80.2	77.0	151.2	82.8	135.4	123.5
30-Sep	88.0	79.1	85.3	80.1	77.0	151.2	83.3	135.6	124.0
7-Oct	87.0	78.7	85.2	80.0	78.0	147.0	83.6	135.2	123.0
14-Oct	87.0	78.5	84.6	79.7	76.0	151.2	83.2	134.6	122.4
21-Oct	86.0	78.0	84.3	79.6	77.0	146.3	82.7	133.5	121.4
28-Oct	86.0	77.4	83.9	79.6	76.0	141.4	81.4	132.7	119.7
4-Nov	86.0	78.3	83.6	79.1	76.0	146.3	81.9	130.3	117.6
11-Nov	85.0	77.8	82.7	78.3	74.0	146.3	81.8	131.1	117.5
18-Nov	84.0	76.7	82.4	78.3	75.0	141.4	80.6	127.1	113.9
25-Nov	84.0	76.9	82.3	78.1	73.0	141.4	80.8	126.2	112.8
2-Dec	84.0	76.7	81.8	77.6	73.0	142.1	79.4	123.6	111.2
9-Dec	84.0	76.2	81.5	77.3	73.0	141.4	80.3	122.1	108.5
16-Dec	84.0	76.4	81.1	76.7	73.0	135.8	81.8	119.7	106.2
23-Dec	84.0	75.8	80.8	76.2	73.0	135.8	80.1	116.2	102.0
31-Dec	83.0	74.5	80.5	76.1	73.0	132.3	76.9	114.2	100.8

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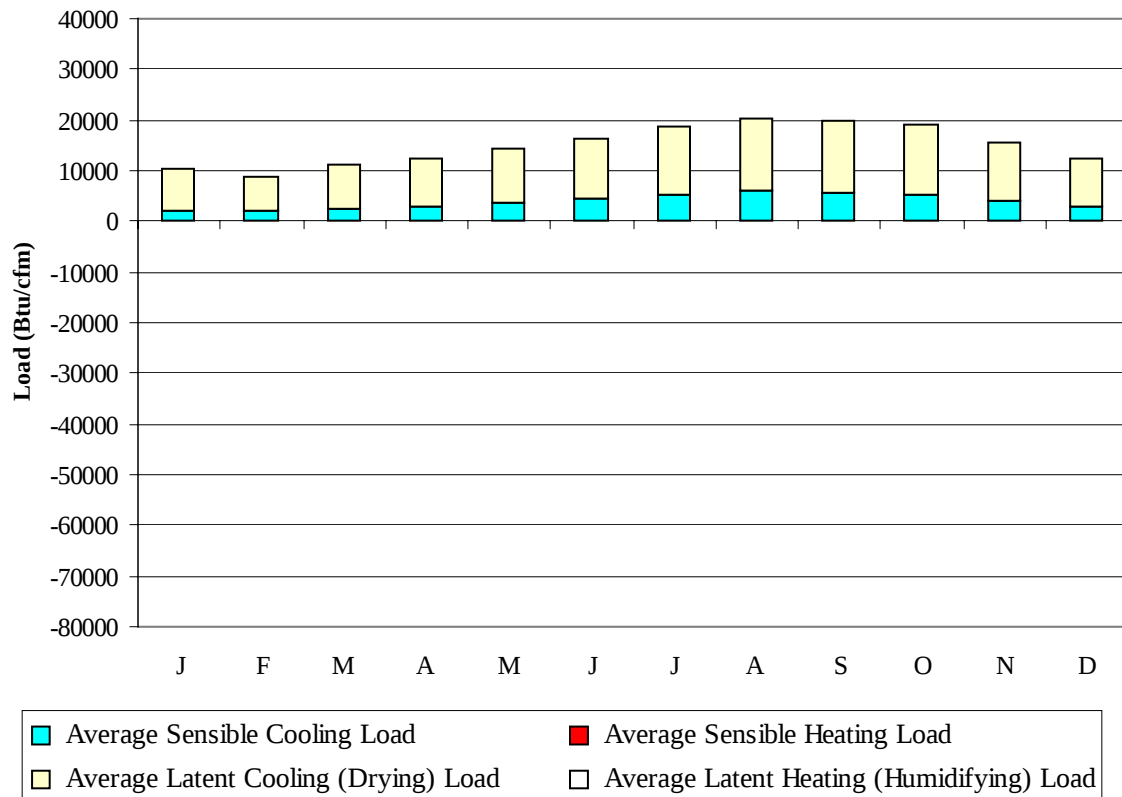
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	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	384	0
FEB	346	0
MAR	392	0
APR	399	0
MAY	446	0
JUN	476	0
JUL	515	0
AUG	528	0
SEP	518	0
OCT	494	0
NOV	451	0
DEC	420	0
ANN	5371	0

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



	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	2184	0	8030	0
FEB	1945	0	7033	0
MAR	2365	0	8622	0
APR	2756	0	9501	0
MAY	3714	0	10753	0
JUN	4655	0	11730	0
JUL	5458	0	13300	0
AUG	5869	0	14402	0
SEP	5790	0	14098	0
OCT	5248	0	13704	0
NOV	4069	0	11351	0
DEC	3000	0	9245	0
ANN	47053	0	131769	0

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

No Solar Radiation
Data Available

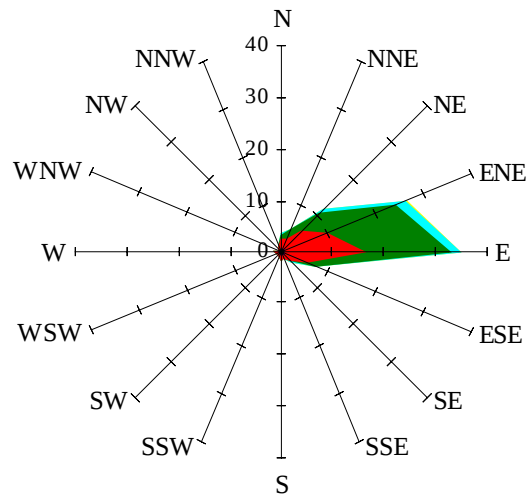


Average Annual Solar Heat and Illumination – Nearest Available Site

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

Wind Summary - December, January, and February

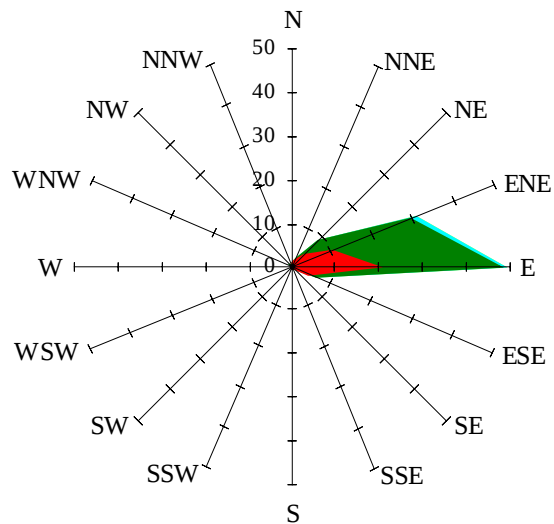
Labels of Percent Frequency on North Axis



Percent Calm = 0.61

Wind Summary - March, April, and May

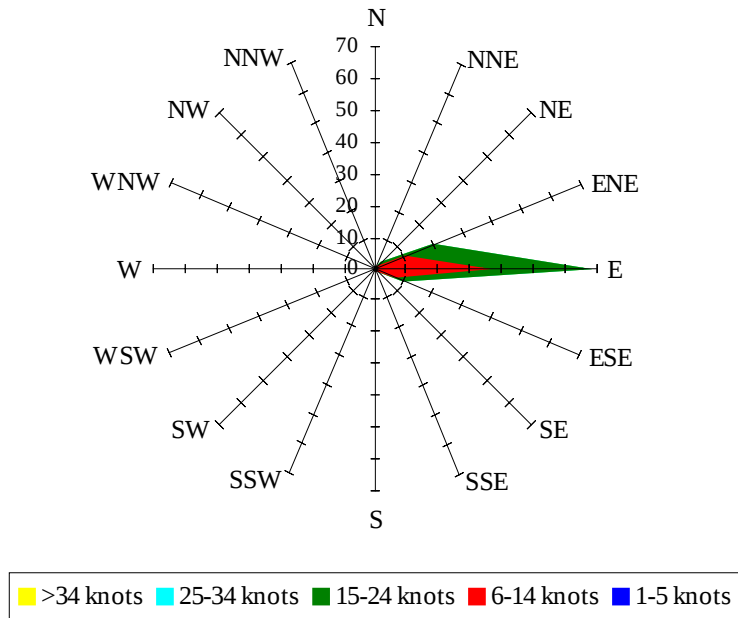
Labels of Percent Frequency on North Axis



Percent Calm = 0.10

Wind Summary - June, July, and August

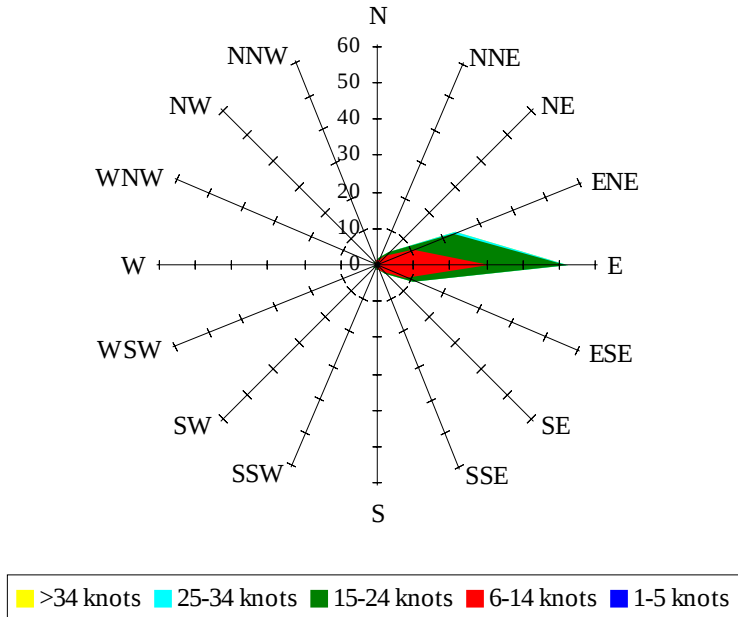
Labels of Percent Frequency on North Axis



Percent Calm = 0.10

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 0.33