NINOY AQUINO PH	
Latitude = 14.52 N	WMO No. 984290
Longitude =121.00 E	Elevation = 69 feet
Period of Record = 1973 to 1996	Average Pressure = 29.72 inches Hg

Design Criteria Data

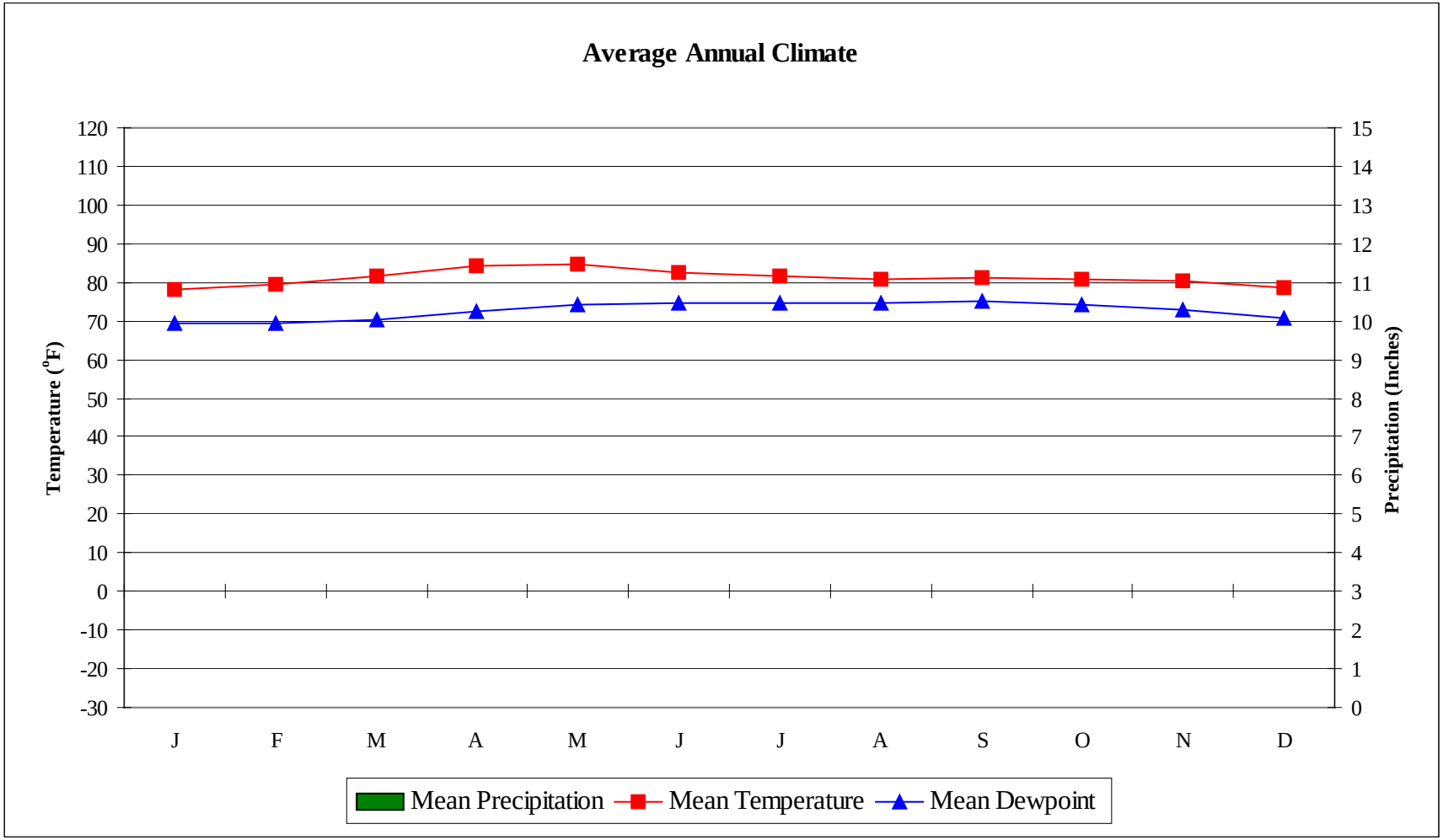
		Mean Coincident (Average) Values			
Dry Bulb Temperature (T)	**Design Value (oF)**	Wet Bulb Temperature (oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	98	80	127	15.8	E
0.4% Occurrence	95	80	129	16.3	E
1.0% Occurrence	93	79	128	16.2	E
2.0% Occurrence	93	79	128	16.2	E
Mean Daily Range	14	-	-	-	-
97.5% Occurrence	72	70	106	3.1	E
99.0% Occurrence	70	67	97	2.1	E
99.6% Occurrence	68	66	93	2.0	E
Median of Extreme Lows	64	62	81	0.9	ENE
		Mean Coincident (Average) Values			
Wet Bulb Temperature (Twb)	**Design Value (oF)**	Dry Bulb Temperature (oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	86	91	176	12.4	E
0.4% Occurrence	83	90	155	13.5	W
1.0% Occurrence	82	89	151	13.1	W
2.0% Occurrence	81	88	146	12.8	W
		Mean Coincident (Average) Values			
Humidity Ratio (HR)	**Design Value (gr/lb)**	Dry Bulb Temperature (oF)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	190	81	0.81	10.2	ESE
0.4% Occurrence	162	87	1.07	8.8	W
1.0% Occurrence	160	88	1.05	12.4	W
2.0% Occurrence	151	86	0.99	11.6	W
Air Conditioning/		T $\geq$ 93oF	T $\geq$ 80oF	Twb $\geq$ 73oF	Twb $\geq$ 67oF
Humid Area Criteria	# of Hours	171	4755	6919	8384

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 75oF-RH 60% Latent + Sensible
10	N/A	N/A	19.4 + 5.0
Ground Water Temperature (oF) 50 Foot Depth *	**Frost Depth 50 Year Recurrence (in.)**	**Ground Snow Load 50 Year Recurrence (lb/ft2)**	**Average Annual Freeze-Thaw Cycles (#)**
83.6	N/A	N/A	0

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

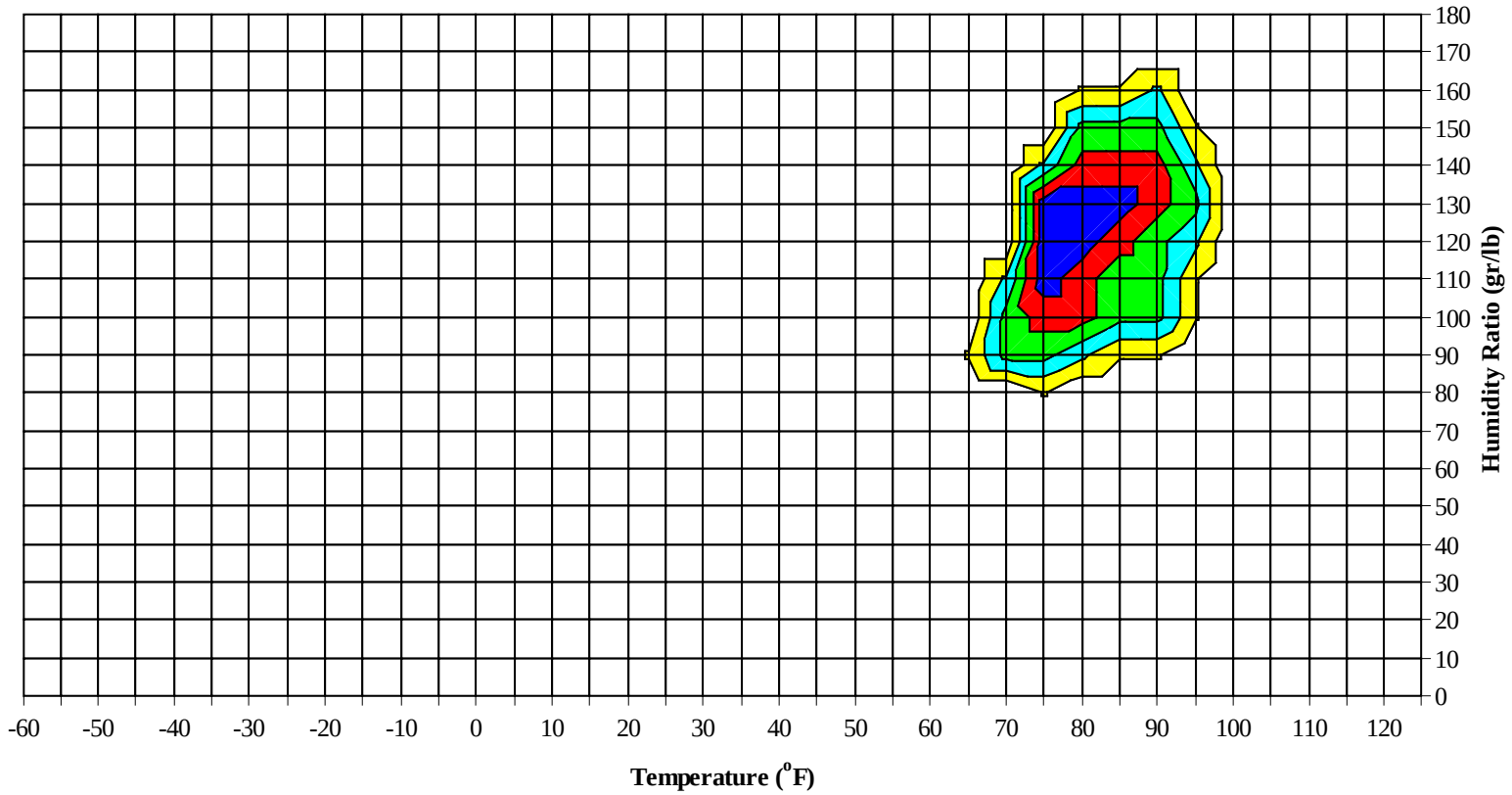
NINOY AQUINO PH WMO No. 984290



No Precipitation Data Available

NINOY AQUINO PH WMO No. 984290

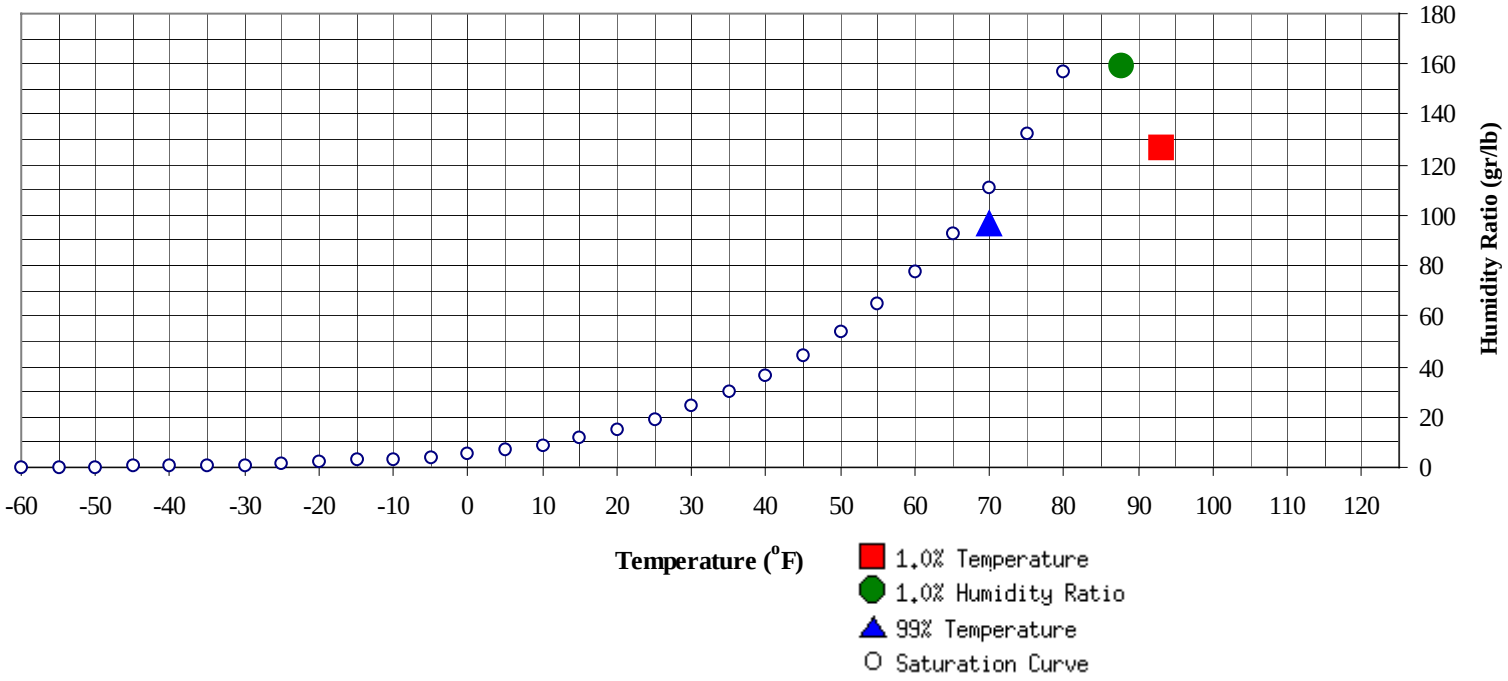
Long Term Psychrometric Summary



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

NINOY AQUINO PH WMO No. 984290

Psychrometric Summary of Peak Design Values



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	70	97.1	31.9

		MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	(gr/lb)				
	159.6	87.6	82.3	80.6	46.1

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	93	126.6	78.9	42.3

NINOY AQUINO PH WMO No. 984290

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

Period of Record = 1973 to 1996

Temperature Range (oF)	January Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (oF)	February Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (oF)	March Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (oF)
100 / 104															
95 / 99							0		0	77.2		2	0	2	77.6
90 / 94		8	0	8	76.8		23	1	24	76.4		84	8	92	76.7
85 / 89	0	62	7	69	75.9	0	80	16	96	75.4	1	90	34	125	75.8
80 / 84	2	135	71	209	74.1	4	97	79	181	73.8	27	63	118	208	74.3
75 / 79	98	41	141	280	72.0	107	22	113	242	71.7	159	8	83	250	72.1
70 / 74	127	2	28	158	69.2	103	1	15	119	69.0	57	0	5	62	69.2
65 / 69	18	0	0	18	65.6	10	0	0	10	65.9	4	0	0	4	65.8
60 / 64	3			3	61.8	0	0	0	0	62.3	0			0	62.2
55 / 59						0	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.

NINOY AQUINO PH WMO No. 984290

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

Period of Record = 1973 to 1996

Temperature Range (oF)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (oF)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (oF)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (oF)
100 / 104															
95 / 99		19	1	20	78.6		28	1	29	80.3	0	7	0	7	80.7
90 / 94	0	134	25	159	78.0	1	122	26	149	79.2	0	78	11	89	79.9
85 / 89	8	64	54	126	77.0	15	67	66	148	78.2	7	88	39	135	78.8
80 / 84	84	21	134	239	75.2	113	25	124	262	76.3	79	52	128	258	77.0
75 / 79	134	2	26	162	73.2	114	5	30	149	74.3	142	13	57	213	74.9
70 / 74	14	0	0	14	70.2	6	1	1	8	71.3	12	1	5	18	70.1
65 / 69	0			0	67.0						0		0	0	67.0
60 / 64															
55 / 59															

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.

NINOY AQUINO PH WMO No. 984290

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

Period of Record = 1973 to 1996

Temperature Range (oF)	July Hour Group (LST) 01 To 08	July 09 To 16	July 17 To 00	July Total Obs	July MCWB (oF)	August Hour Group (LST) 01 To 08	August 09 To 16	August 17 To 00	August Total Obs	August MCWB (oF)	September Hour Group (LST) 01 To 08	September 09 To 16	September 17 To 00	September Total Obs	September MCWB (oF)
100 / 104															
95 / 99		1	0	1	80.7	0	0		0	82.5		0	0	0	79.6
90 / 94		41	4	45	79.8	0	21	1	22	80.3	0	25	1	26	79.9
85 / 89	3	103	28	134	78.9	1	96	19	116	79.1	0	99	17	116	79.2
80 / 84	56	81	122	259	77.1	43	97	110	249	77.3	40	96	123	258	77.4
75 / 79	177	22	90	290	74.9	186	34	114	334	75.0	188	19	97	305	75.1
70 / 74	12	1	3	16	71.3	18	1	4	23	71.2	12	1	2	15	71.8
65 / 69						0	0	0	0	67.3	0	0	0	0	
60 / 64											0	0	0	0	58.3
55 / 59											0		0	0	55.5

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.

NINOY AQUINO PH WMO No. 984290

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

Period of Record = 1973 to 1996

Temperature Range (oF)	October					November					December				
	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB	Hour Group (LST)				MCWB
	01 To 08	09 To 16	17 To 00	Total Obs	(oF)	01 To 08	09 To 16	17 To 00	Total Obs	(oF)	01 To 08	09 To 16	17 To 00	Total Obs	(oF)
100 / 104		0		0	82.3										
95 / 99		0		0	79.0		0		0	79.2					
90 / 94	0	26	1	27	79.4		26	1	27	78.8		9	0	9	77.6
85 / 89	0	102	18	120	78.7	0	88	12	100	77.6	0	67	5	72	76.6
80 / 84	35	93	127	255	76.9	19	102	106	227	76.0	5	132	73	210	74.8
75 / 79	190	26	97	312	74.8	176	22	116	314	73.9	126	36	147	310	72.8
70 / 74	22	1	5	28	71.0	45	2	4	51	70.8	105	4	22	130	69.9
65 / 69	1	0		1	66.7	0	0	0	0	66.7	11		1	12	66.1
60 / 64	0			0	64.0						1			1	62.4
55 / 59															

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.

NINOY AQUINO PH WMO No. 984290

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

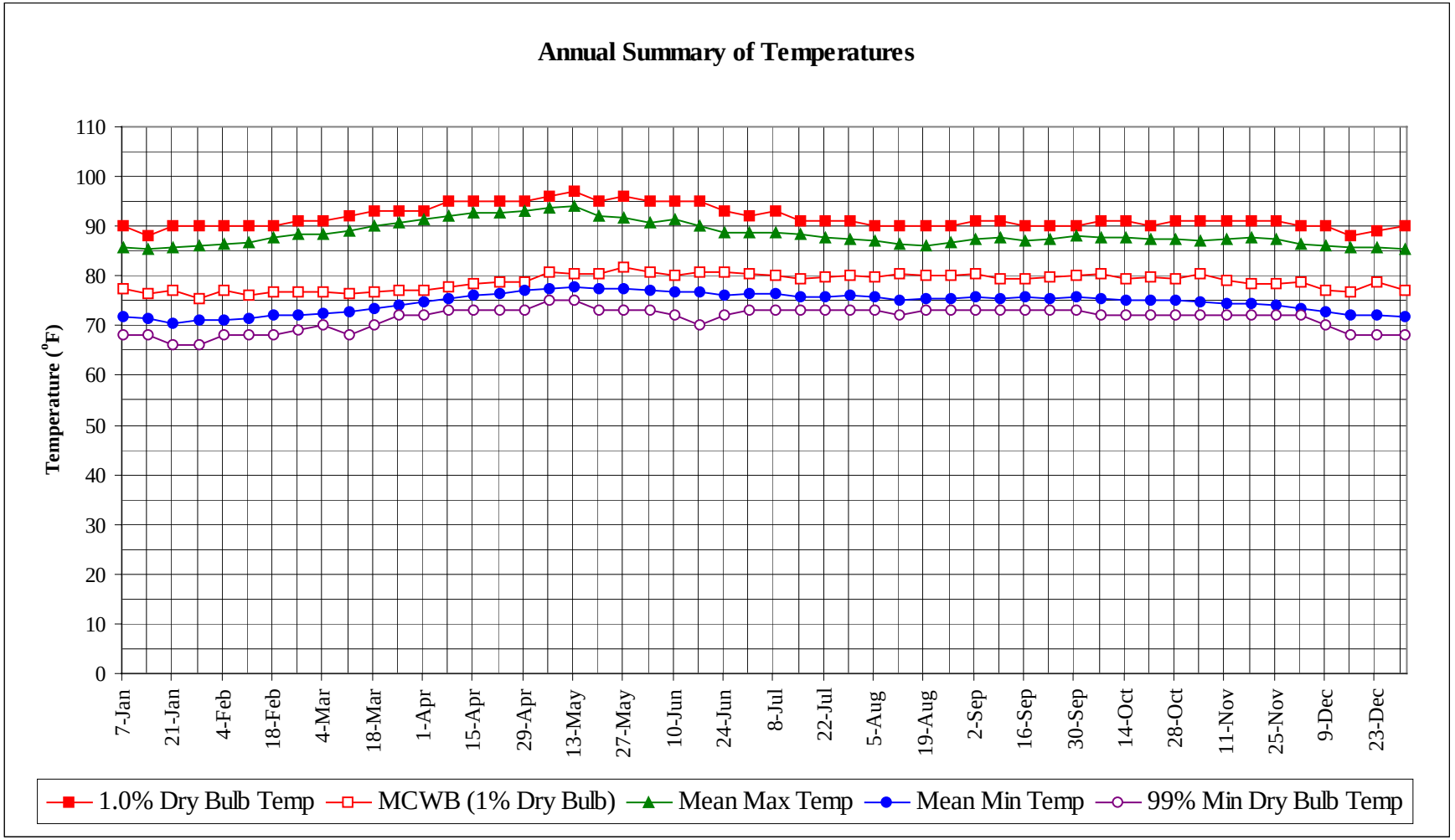
Period of Record = 1973 to 1996

Annual Totals

Temperature Range (oF)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (oF)
100 / 104		0		0	82.3
95 / 99	0	58	2	60	79.7
90 / 94	1	600	80	681	78.6
85 / 89	35	1003	319	1357	77.7
80 / 84	504	994	1312	2810	76.0
75 / 79	1795	249	1110	3154	73.8
70 / 74	537	15	95	647	69.8
65 / 69	44	1	2	47	65.9
60 / 64	4	0	0	4	61.9
55 / 59	0	0	0	0	55.5

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.

NINOY AQUINO PH WMO No. 984290



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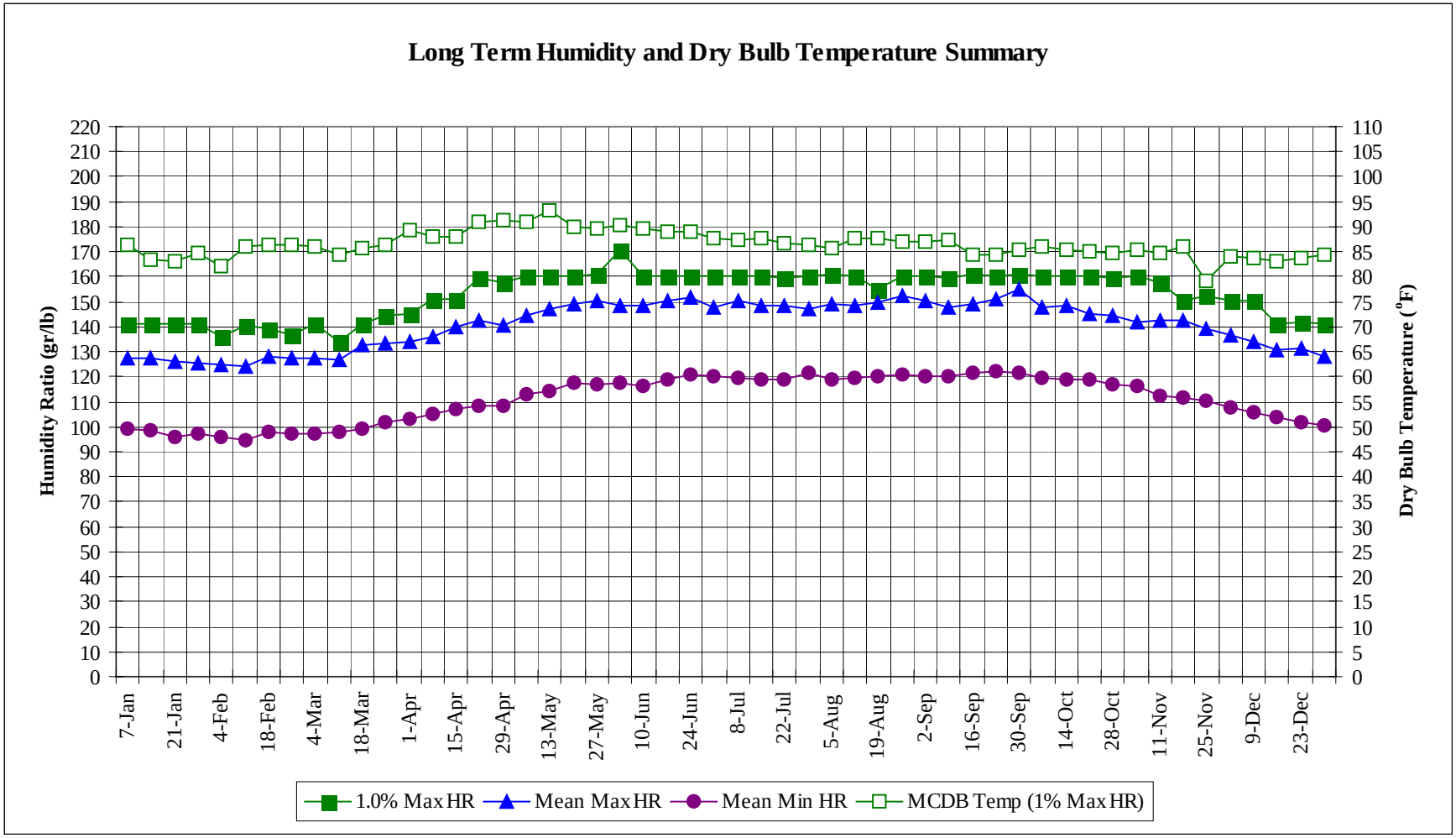
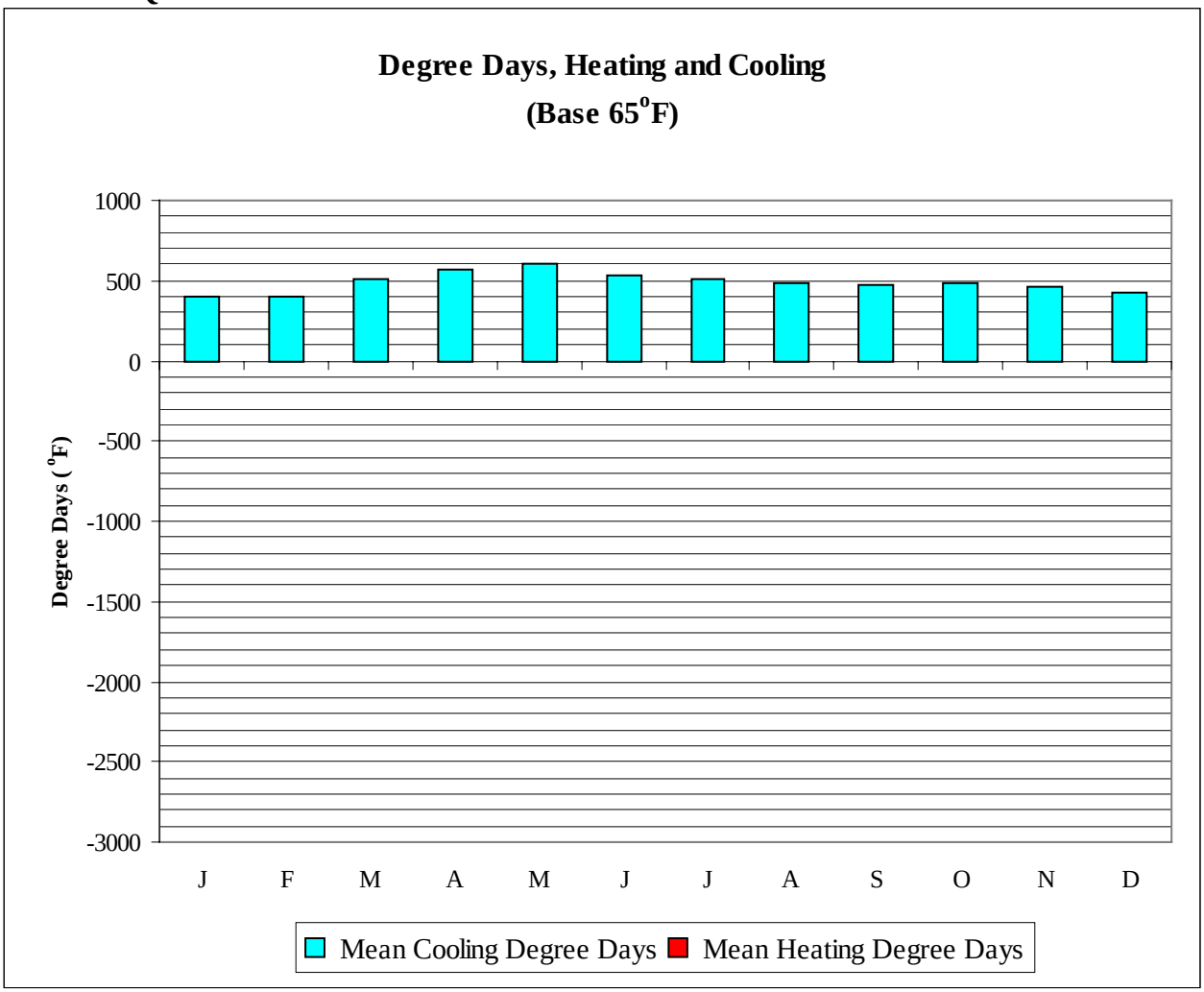


NINOY AQUINO PH WMO No. 984290

Long Term Dry Bulb Temperature and Humidity Summary

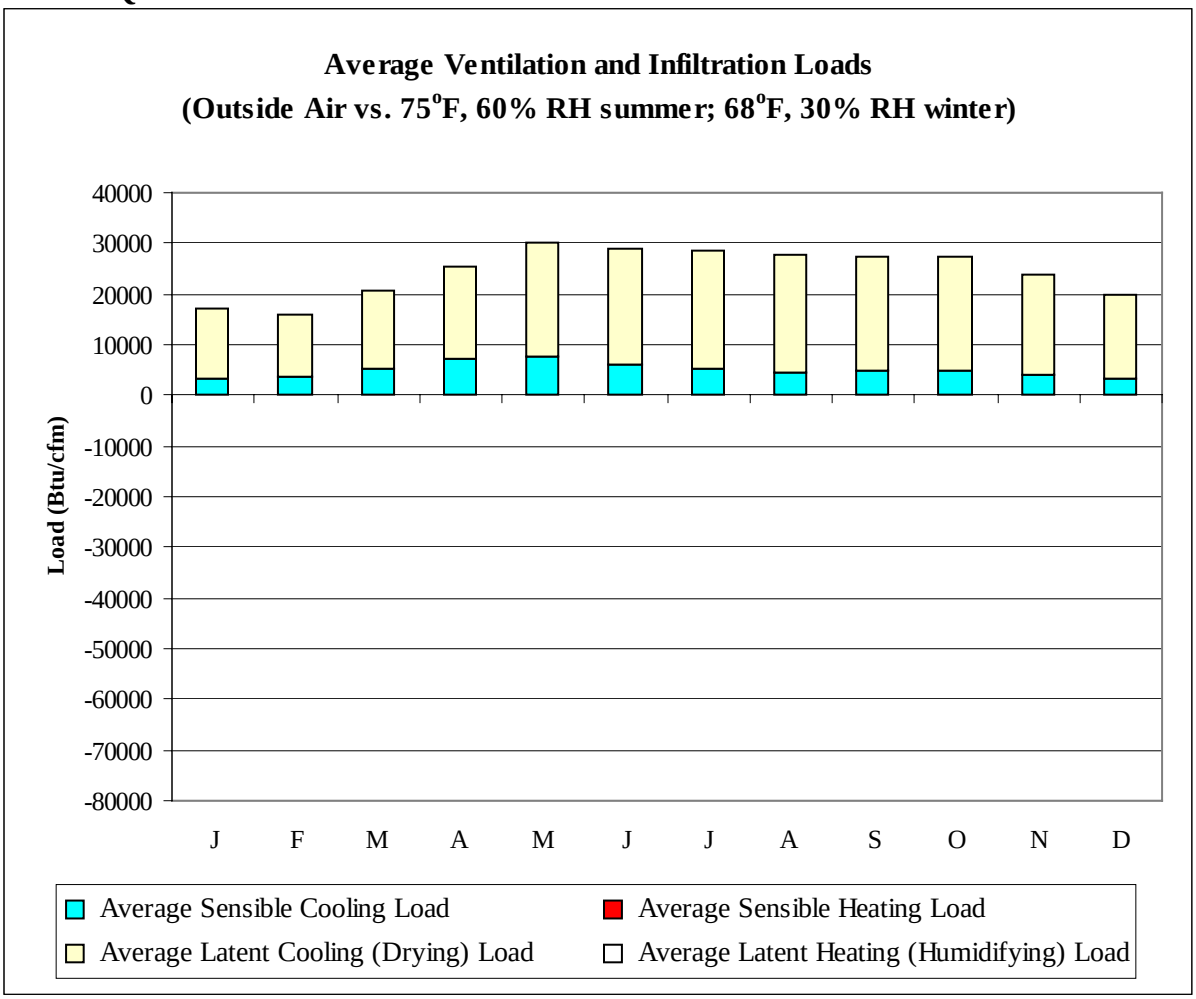
Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	90.0	77.4	85.7	71.9	68.0	141.4	86.4	127.3	99.1
14-Jan	88.0	76.3	85.5	71.4	68.0	141.4	83.4	127.6	98.6
21-Jan	90.0	77.2	85.8	70.6	66.0	141.4	83.1	126.4	95.7
28-Jan	90.0	75.4	86.0	71.2	66.0	141.4	84.7	125.3	97.0
4-Feb	90.0	77.1	86.3	71.2	68.0	135.8	82.0	124.8	96.1
11-Feb	90.0	76.1	86.9	71.4	68.0	140.7	86.0	124.3	94.6
18-Feb	90.0	76.8	87.8	72.2	68.0	139.3	86.5	127.9	97.7
25-Feb	91.0	76.7	88.3	72.0	69.0	136.5	86.5	127.7	97.4
4-Mar	91.0	76.8	88.5	72.5	70.0	141.4	85.9	127.4	97.1
11-Mar	92.0	76.6	89.1	72.8	68.0	133.7	84.5	126.8	97.6
18-Mar	93.0	76.8	90.2	73.4	70.0	141.4	85.7	132.9	99.3
25-Mar	93.0	77.0	90.6	74.2	72.0	144.2	86.5	133.5	101.5
1-Apr	93.0	77.2	91.3	74.6	72.0	144.9	89.3	133.8	103.0
8-Apr	95.0	77.9	92.0	75.4	73.0	151.2	88.0	135.8	105.3
15-Apr	95.0	78.3	92.6	76.0	73.0	151.2	87.8	139.8	107.0
22-Apr	95.0	78.7	92.9	76.5	73.0	159.6	90.9	142.5	108.5
29-Apr	95.0	78.7	93.2	77.1	73.0	157.5	91.3	140.4	108.5
6-May	96.0	80.9	93.7	77.6	75.0	160.3	91.0	144.7	112.7
13-May	97.0	80.4	94.1	77.8	75.0	160.3	93.1	147.3	114.4
20-May	95.0	80.4	92.1	77.6	73.0	160.3	90.0	149.0	117.4
27-May	96.0	81.7	91.6	77.4	73.0	161.0	89.5	150.3	117.0
3-Jun	95.0	80.6	90.7	77.1	73.0	170.8	90.5	148.6	117.5
10-Jun	95.0	80.1	91.2	76.9	72.0	160.3	89.6	148.3	116.3
17-Jun	95.0	80.6	90.1	76.9	70.0	160.3	89.1	150.7	118.9
24-Jun	93.0	80.8	88.7	76.2	72.0	160.3	89.1	151.7	120.7
1-Jul	92.0	80.4	88.8	76.3	73.0	160.3	87.7	147.7	119.9
8-Jul	93.0	80.2	88.7	76.3	73.0	160.3	87.2	150.2	119.4
15-Jul	91.0	79.5	88.3	75.9	73.0	160.3	87.8	148.1	119.1
22-Jul	91.0	79.7	87.6	75.8	73.0	159.6	86.6	148.4	119.2
29-Jul	91.0	80.0	87.4	75.9	73.0	160.3	86.3	147.3	121.3
5-Aug	90.0	79.9	87.2	75.7	73.0	161.0	85.8	149.0	118.8
12-Aug	90.0	80.5	86.3	75.3	72.0	160.3	87.8	148.4	119.3
19-Aug	90.0	80.2	86.2	75.4	73.0	154.7	87.8	149.5	120.4
26-Aug	90.0	80.0	86.7	75.6	73.0	160.3	87.1	152.1	121.1
2-Sep	91.0	80.5	87.5	75.6	73.0	160.3	87.0	150.5	119.9
9-Sep	91.0	79.5	87.6	75.6	73.0	159.6	87.3	147.8	120.2
16-Sep	90.0	79.4	87.2	75.8	73.0	161.0	84.5	149.0	121.8
23-Sep	90.0	79.9	87.3	75.4	73.0	160.3	84.3	151.0	122.1
30-Sep	90.0	80.2	88.1	75.7	73.0	161.0	85.5	154.8	121.6
7-Oct	91.0	80.3	87.6	75.5	72.0	160.3	86.1	148.1	119.7
14-Oct	91.0	79.6	87.6	75.2	72.0	160.3	85.2	148.1	118.8
21-Oct	90.0	79.9	87.5	75.2	72.0	160.3	85.0	145.3	118.6
28-Oct	91.0	79.5	87.5	75.1	72.0	159.6	84.7	144.6	116.6
4-Nov	91.0	80.4	87.1	74.7	72.0	160.3	85.3	142.1	116.3
11-Nov	91.0	79.1	87.5	74.5	72.0	157.5	84.7	142.3	112.6
18-Nov	91.0	78.4	87.7	74.4	72.0	150.5	85.9	142.3	111.4
25-Nov	91.0	78.3	87.3	74.2	72.0	152.6	79.0	139.3	110.5
2-Dec	90.0	78.8	86.4	73.5	72.0	150.5	84.0	136.4	107.5
9-Dec	90.0	77.1	86.1	72.8	70.0	150.5	83.7	134.0	105.9
16-Dec	88.0	76.8	85.9	72.2	68.0	141.4	83.1	130.9	103.5
23-Dec	89.0	78.7	85.8	72.0	68.0	142.1	83.6	131.2	101.6
31-Dec	90.0	77.2	85.4	71.7	68.0	141.4	84.3	128.3	100.6

NINOY AQUINO PH WMO No. 984290



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	407	0
FEB	404	0
MAR	511	0
APR	571	0
MAY	604	0
JUN	532	0
JUL	509	0
AUG	485	0
SEP	478	0
OCT	489	0
NOV	456	0
DEC	420	0
ANN	5867	0

NINOY AQUINO PH WMO No. 984290



	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	3153	-22	13813	0
FEB	3564	-7	12419	0
MAR	5421	-2	15254	0
APR	7114	0	18393	0
MAY	7645	0	22634	0
JUN	6069	0	22886	0
JUL	5229	0	23320	0
AUG	4616	0	23173	0
SEP	4688	-3	22782	0
OCT	4746	0	22573	0
NOV	4182	0	19560	0
DEC	3296	-8	16379	0
ANN	59723	-42	233186	0

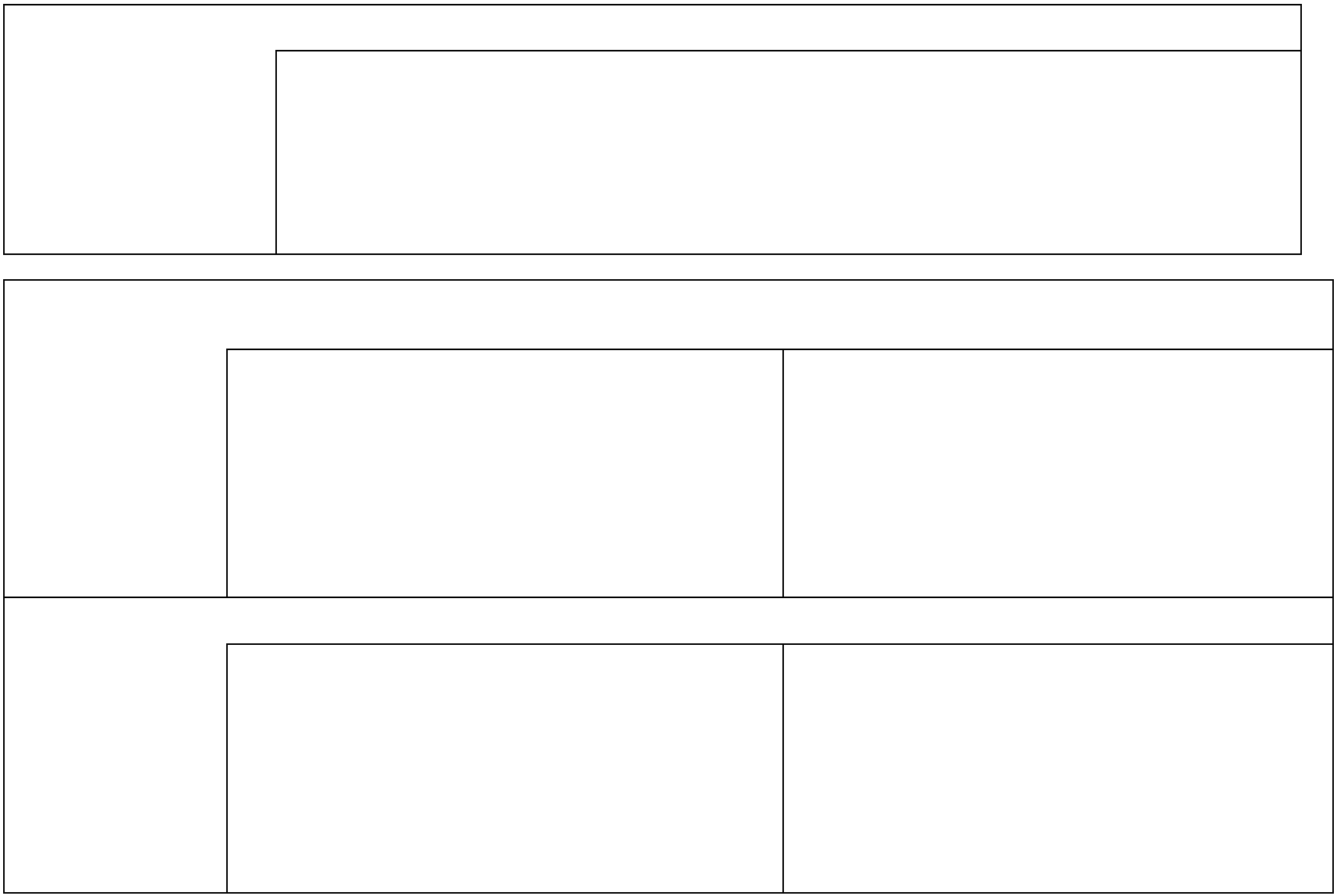
Average Annual Solar Radiation – Nearest Available Site

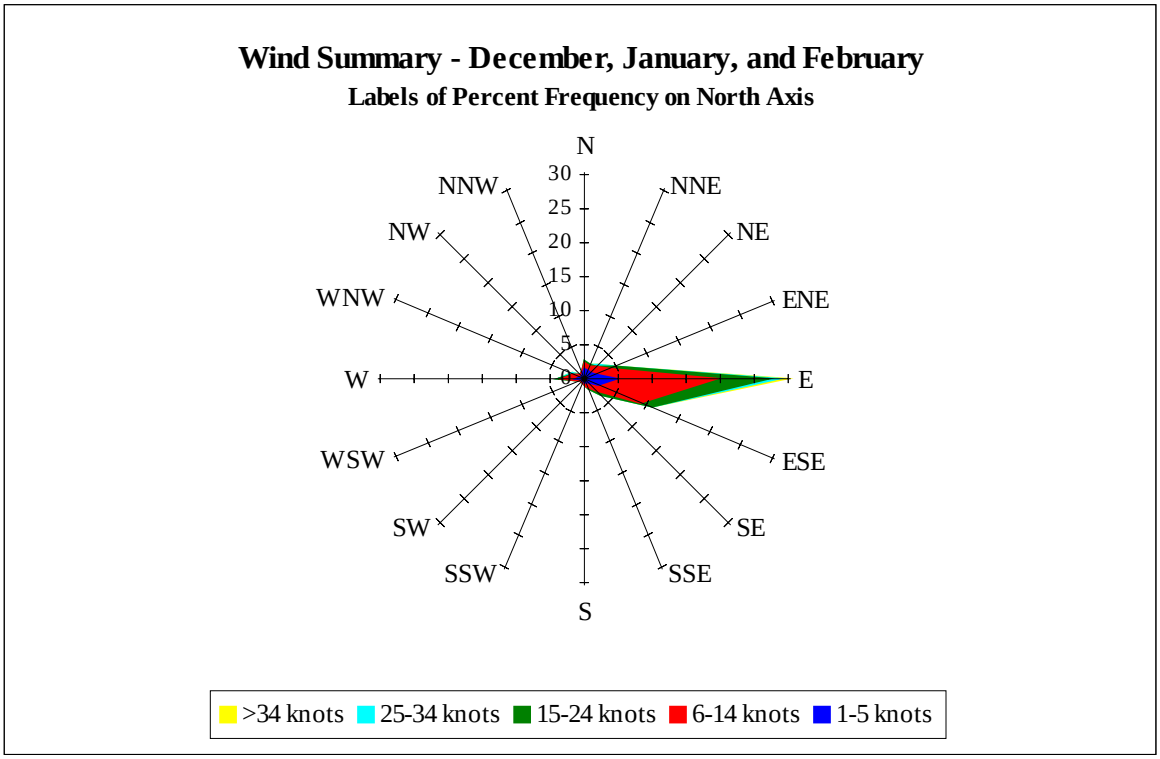
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

No Solar Radiation
Data Available

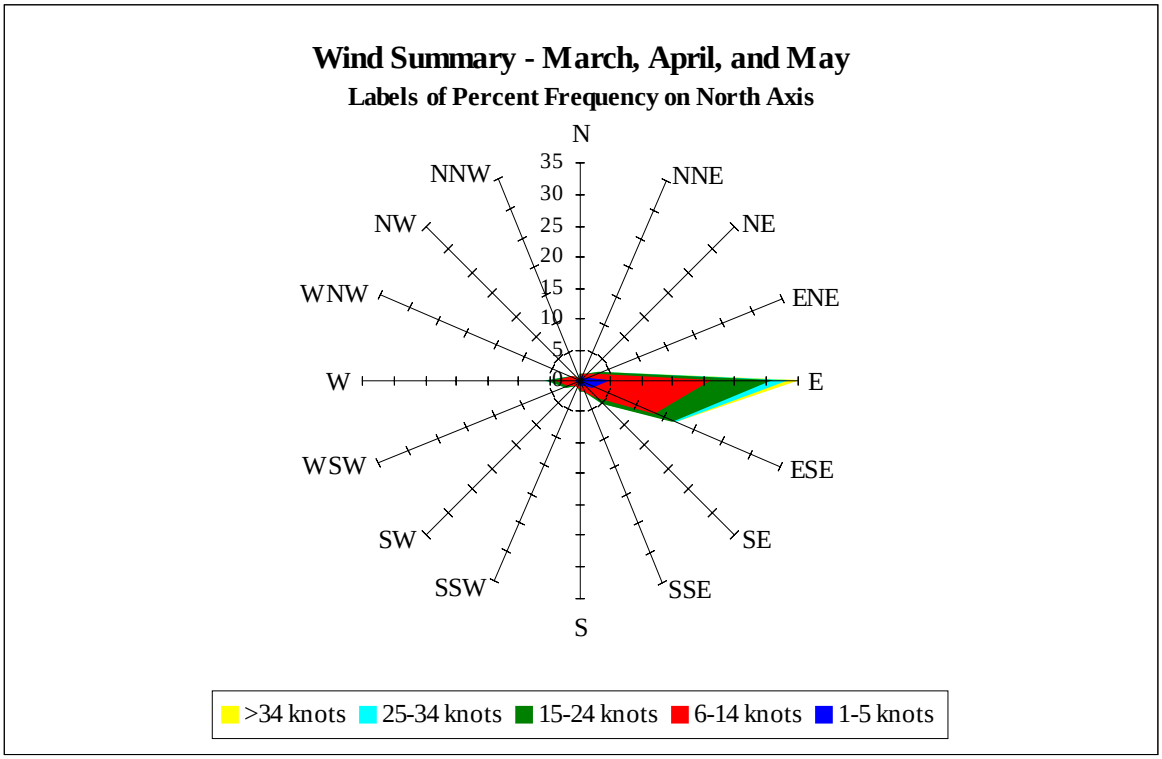
Average Annual Solar Heat and Illumination – Nearest Available Site

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

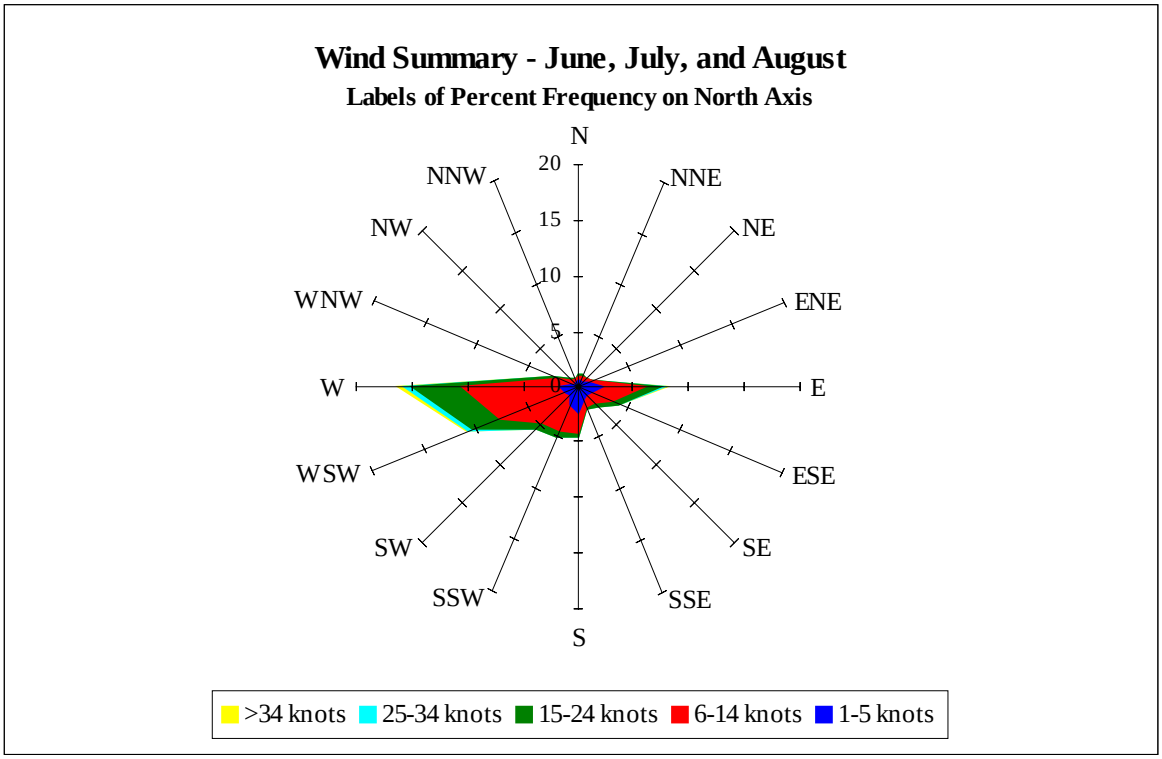




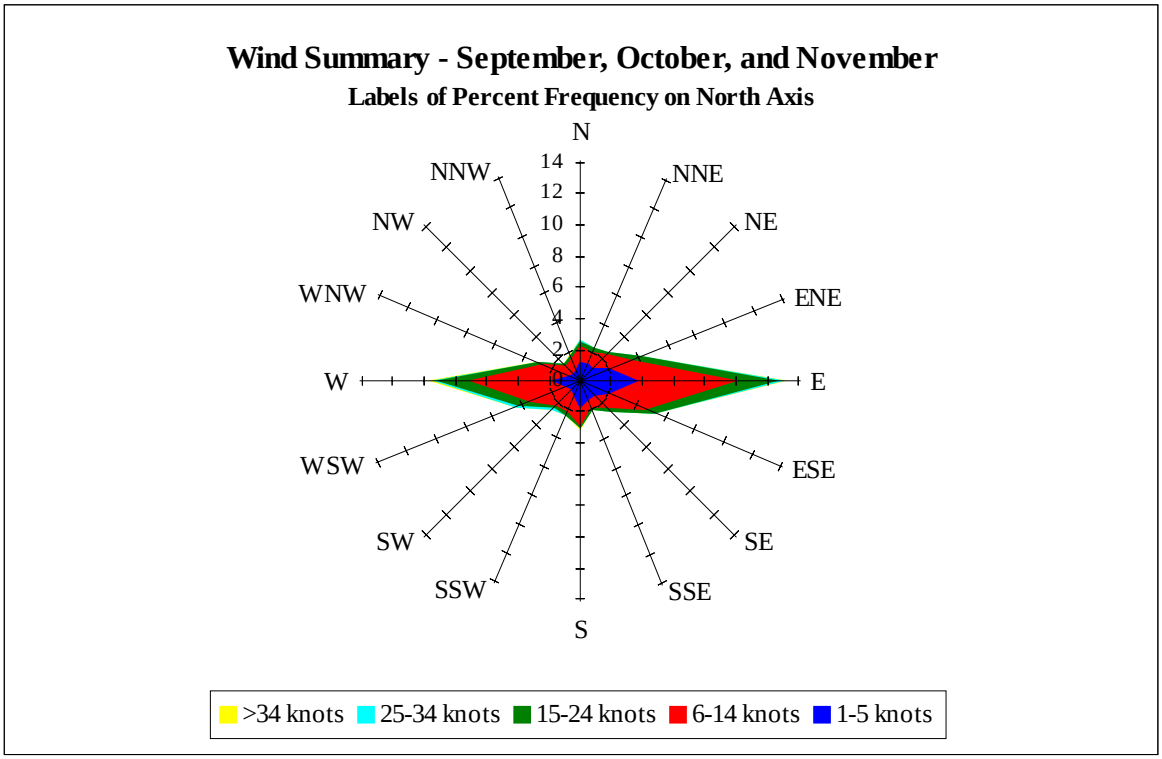
Percent Calm = 31.75



Percent Calm = 22.08



Percent Calm = 32.59



Percent Calm = 38.00