ASTORIA/CLATSOP OR	
Latitude = 46.15 N	WMO No. 727910
Longitude =123.80 W	Elevation = 23 feet
Period of Record = 1973 to 1996	Average Pressure = 30.00 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	87	68	71	11.7	NE
0.4% Occurrence	77	64	69	11.4	NW
1.0% Occurrence	72	62	68	11.6	NW
2.0% Occurrence	69	61	66	11.7	NW
Mean Daily Range	13	-	-	-	-
97.5% Occurrence	32	31	23	5.9	E
99.0% Occurrence	29	27	18	6.4	E
99.6% Occurrence	25	23	14	7.5	E
Median of Extreme Lows	21	19	10	10.5	E
		Mean Coincident (Average) Values			
Wet Bulb Temperature (T_{wb})	**Design Value (^oF)**	Dry Bulb Temperature (^oF)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Median of Extreme Highs	70	82	88	10.2	NW
0.4% Occurrence	65	74	76	11.0	NW
1.0% Occurrence	63	70	73	11.3	NW
2.0% Occurrence	62	68	71	11.1	NW
		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	93	78	0.62	9.7	NNW
0.4% Occurrence	80	69	0.54	10.3	NW
1.0% Occurrence	77	67	0.52	9.8	WNW
2.0% Occurrence	74	65	0.50	9.5	SW
Air Conditioning/		$T \geq 93^oF$	$T \geq 80^oF$	$T_{wb} \geq 73^oF$	$T_{wb} \geq 67^oF$
Humid Area Criteria	# of Hours	0	22	1	20

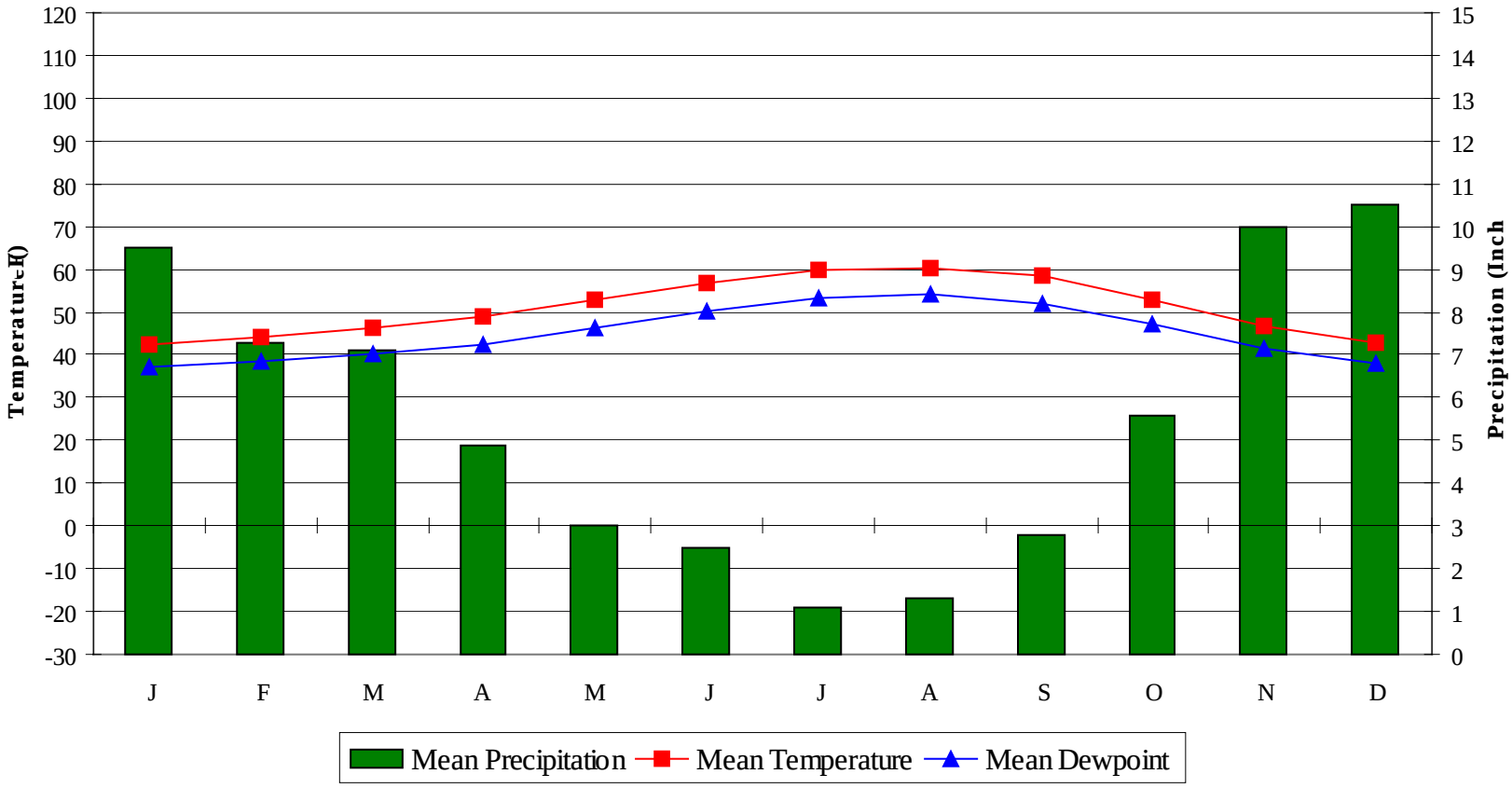
Other Site Data

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^oF-RH 60% Latent + Sensible
7	1.3	N/A	0.0 + 0.0
Ground Water Temperature (^oF) 50 Foot Depth *	**Frost Depth 50 Year Recurrence (in.)**	**Ground Snow Load 50 Year Recurrence (lb/ft^2)**	**Average Annual Freeze-Thaw Cycles (#)**
53.5	N/A	3	21

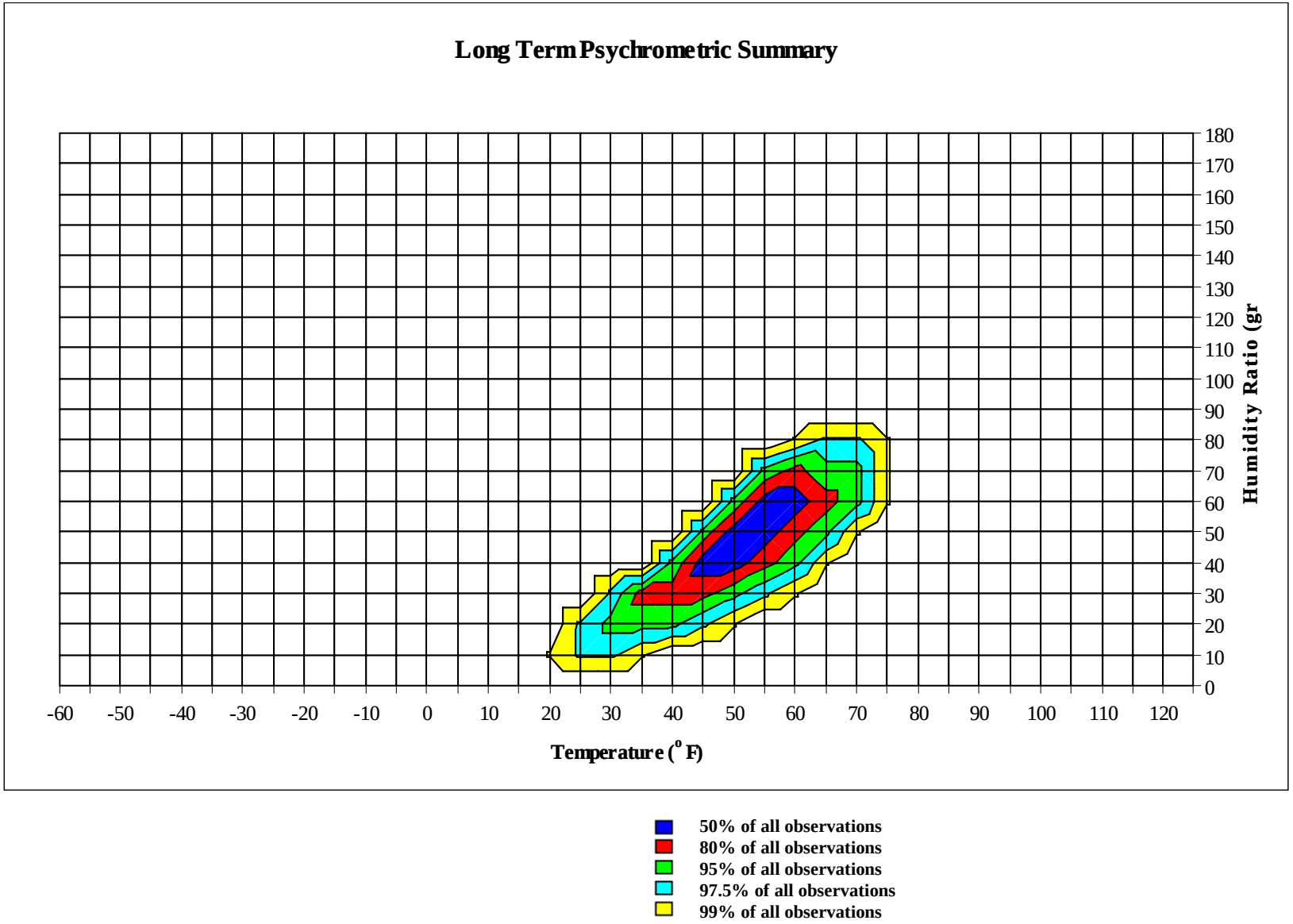
*Note: Temperatures at greater depths can be estimated by adding 1.5^oF per 100 feet additional depth.

ASTORIA/CLATSOP OR WMO No. 727910

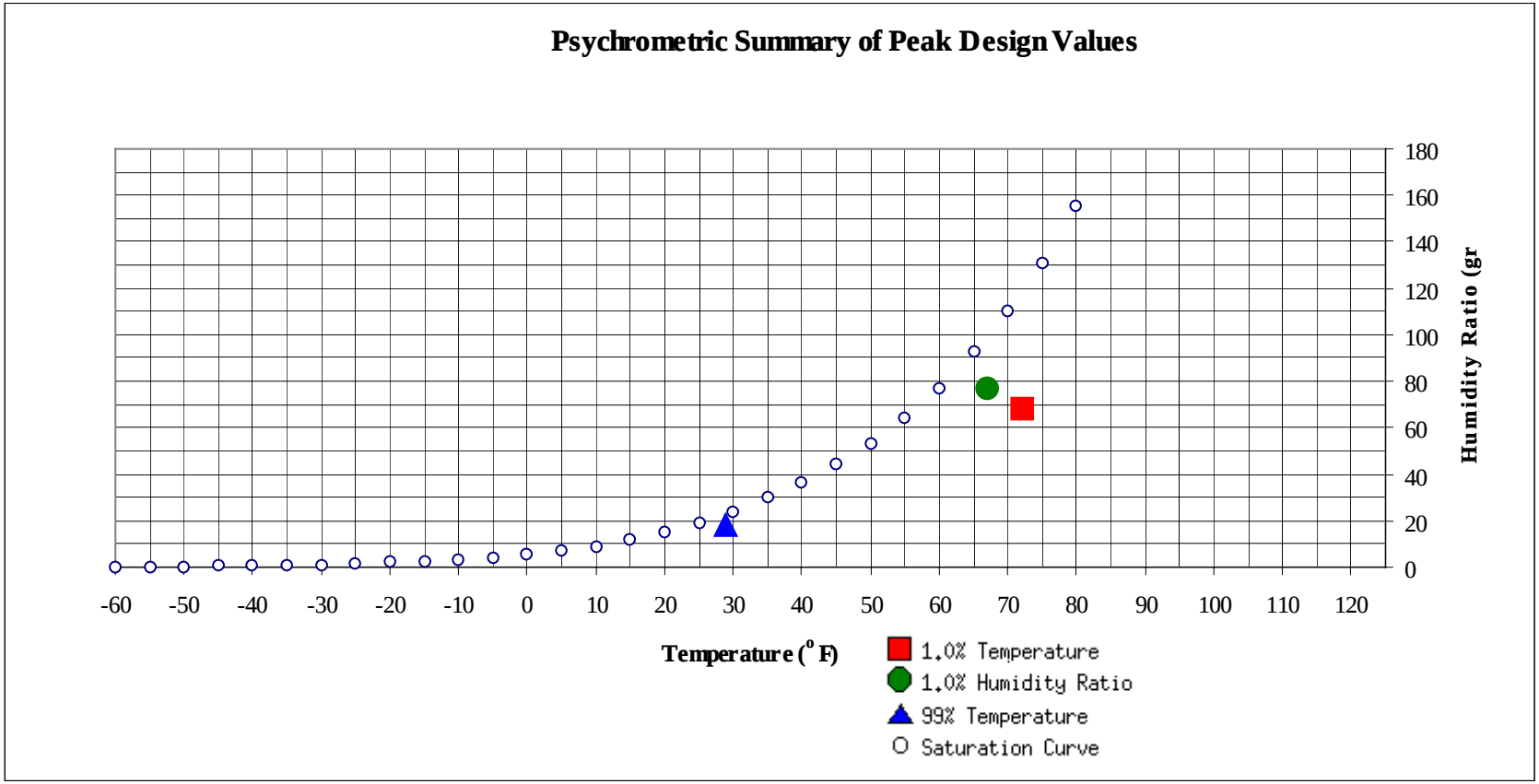
Average Annual Climate



ASTORIA/CLATSOP OR WMO No. 727910



ASTORIA/CLATSOP OR WMO No. 727910



	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)
99% Dry Bulb	29	18	9.7

	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
1.0% Humidity Ratio	77	67.1	62.6	60	28.1

	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
1.0% Dry Bulb	72	68.4	62.4	28.0

ASTORIA/CLATSOP OR WMO No. 727910

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

Period of Record = 1973 to 1996

Temperature Range (°F)	January Hour Group (LST) 01 To 08	January 09 To 16	January 17 To 00	January Total Obs	January MCWB (°F)	February Hour Group (LST) 01 To 08	February 09 To 16	February 17 To 00	February Total Obs	February MCWB (°F)	March Hour Group (LST) 01 To 08	March 09 To 16	March 17 To 00	March Total Obs	March MCWB (°F)
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74							0		0	57.0		0		0	53.9
65 / 69		0		0	46.0		1	0	1	51.9		2	0	2	52.2
60 / 64	0	1	0	1	50.6	0	5	1	6	52.2	0	9	1	10	51.1
55 / 59	4	9	3	15	50.8	4	21	8	32	51.4	2	32	9	43	50.3
50 / 54	25	52	35	112	48.9	24	57	39	120	48.5	23	90	51	164	48.0
45 / 49	58	79	70	207	44.7	52	72	70	194	44.5	75	84	94	252	44.5
40 / 44	54	56	58	167	39.9	59	42	56	157	40.1	76	25	67	167	40.4
35 / 39	52	31	49	133	35.0	45	17	33	95	35.5	49	4	23	76	36.2
30 / 34	36	14	24	74	30.3	26	6	14	46	30.9	23	0	4	27	31.8
25 / 29	14	3	8	25	25.1	11	1	4	16	25.5	2			2	27.6
20 / 24	5	1	2	7	20.4	2	0	0	3	20.8					
15 / 19	2		0	2	15.4	0	1	0	1	14.7					
10 / 14	0			0	11.5	1	0	0	1	11.0					
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.

ASTORIA/CLATSOP OR WMO No. 727910

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

Period of Record = 1973 to 1996

Temperature Range (°F)	April Hour Group (LST) 01 To 08	April 09 To 16	April 17 To 00	April Total Obs	April MCWB (°F)	May Hour Group (LST) 01 To 08	May 09 To 16	May 17 To 00	May Total Obs	May MCWB (°F)	June Hour Group (LST) 01 To 08	June 09 To 16	June 17 To 00	June Total Obs	June MCWB (°F)
95 / 99															
90 / 94												0		0	64.7
85 / 89							0		0	64.0		1	0	1	66.4
80 / 84		0		0	60.0		1	0	1	64.1		1	0	2	65.0
75 / 79		1	0	1	57.7		3	1	3	63.3	0	3	1	4	64.4
70 / 74		2	1	3	56.3		6	1	7	61.1	0	7	2	9	62.1
65 / 69		7	1	8	54.5	0	13	3	17	58.6	1	32	6	38	59.2
60 / 64	0	17	4	21	53.2	2	42	12	57	55.5	6	100	38	144	56.0
55 / 59	6	51	16	73	51.1	24	103	53	180	52.3	79	81	111	272	53.5
50 / 54	38	104	75	217	48.2	92	71	112	275	49.0	109	13	74	196	50.3
45 / 49	88	50	94	232	44.7	85	7	54	147	45.6	35	0	9	45	46.3
40 / 44	68	7	42	116	40.9	35	0	12	47	41.5	9		1	9	42.2
35 / 39	33	0	8	42	36.6	10	0	1	11	37.3	0			0	38.0
30 / 34	7	0	0	8	32.6	0			0	32.9					
25 / 29															
20 / 24															
15 / 19															
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.

ASTORIA/CLATSOP OR WMO No. 727910

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

Period of Record = 1973 to 1996

Temperature Range (°F)	July Hour Group (LST) 01 To 08	July 09 To 16	July 17 To 00	July Total Obs	July MCWB (°F)	August Hour Group (LST) 01 To 08	August 09 To 16	August 17 To 00	August Total Obs	August MCWB (°F)	September Hour Group (LST) 01 To 08	September 09 To 16	September 17 To 00	September Total Obs	September MCWB (°F)
95 / 99							0		0	75.0					
90 / 94		0		0	69.3		0	0	0	71.7					
85 / 89		1		1	69.9		1	0	1	70.1		1	0	1	66.7
80 / 84		3	0	3	67.5		3	1	4	68.5		6	1	7	64.9
75 / 79	0	6	1	7	65.4	0	5	1	7	65.6		9	2	11	63.3
70 / 74	0	20	3	23	62.9	0	22	4	26	63.1	0	20	5	25	61.6
65 / 69	2	76	19	97	59.8	1	85	20	107	60.3	2	55	14	71	59.8
60 / 64	29	114	84	227	57.2	40	111	94	245	57.9	27	98	62	188	57.4
55 / 59	140	28	121	288	54.7	135	19	107	262	55.2	84	44	96	224	54.7
50 / 54	60	0	19	79	51.0	51	0	20	71	51.1	70	5	47	122	50.7
45 / 49	16	0	1	18	46.6	17		2	19	46.6	40	0	13	53	46.3
40 / 44	1			1	42.8	2		0	3	42.0	14		1	15	41.8
35 / 39											2		0	2	37.5
30 / 34											0			0	34.0
25 / 29															
20 / 24															
15 / 19															
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.

ASTORIA/CLATSOP OR WMO No. 727910

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

Period of Record = 1973 to 1996

Temperature Range (°F)	October Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	November Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)	December Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
95 / 99															
90 / 94															
85 / 89															
80 / 84		0	0	0	63.5										
75 / 79		2	0	2	61.3										
70 / 74		7	1	7	58.9		0		0	61.0					
65 / 69	1	14	3	18	57.5		1	0	1	59.4					
60 / 64	5	59	14	78	55.8	1	8	1	9	55.3	1	1	1	2	55.8
55 / 59	41	97	70	208	53.5	17	39	22	78	53.3	5	11	7	22	53.1
50 / 54	71	50	83	204	49.8	44	81	58	182	49.1	29	49	31	108	49.4
45 / 49	63	14	51	127	45.6	62	66	67	196	44.6	54	84	60	197	44.4
40 / 44	45	2	25	72	41.3	53	29	53	135	40.4	60	63	68	192	40.0
35 / 39	20	0	4	24	36.7	37	9	26	72	36.0	54	25	52	132	35.6
30 / 34	3		0	3	32.6	21	3	12	36	30.8	33	8	21	61	31.4
25 / 29						5	1	3	10	26.1	9	3	5	17	26.0
20 / 24						1		0	1	21.7	4	2	2	8	19.7
15 / 19											1	0	1	3	14.9
10 / 14											0	0	0	0	10.4
5 / 9											0		0	0	6.9

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.

ASTORIA/CLATSOP OR WMO No. 727910

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

Period of Record = 1973 to 1996

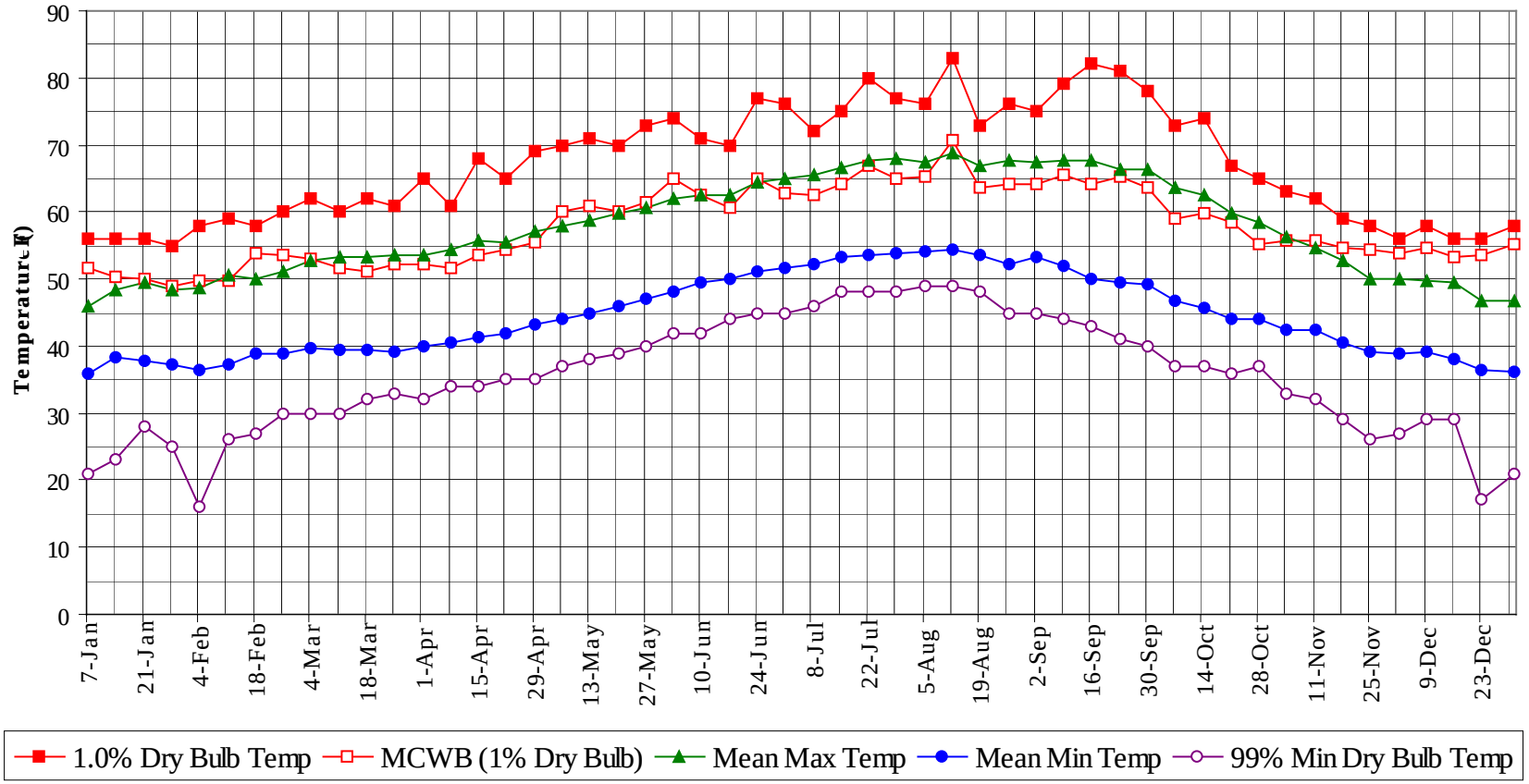
Annual Totals

Temperature Range (°F)	Hour Group (LST) 01 To 08	09 To 16	17 To 00	Total Obs	MCWB (°F)
95 / 99		0		0	75.0
90 / 94		1	0	1	69.8
85 / 89		4	0	4	67.9
80 / 84		15	2	17	66.1
75 / 79	0	29	7	36	64.1
70 / 74	1	83	16	101	62.0
65 / 69	7	286	68	361	59.5
60 / 64	112	562	314	987	56.8
55 / 59	540	529	621	1690	53.7
50 / 54	633	571	638	1842	49.3
45 / 49	644	458	586	1688	44.9
40 / 44	476	226	384	1085	40.4
35 / 39	303	88	198	589	35.8
30 / 34	151	32	77	259	31.0
25 / 29	42	8	21	71	25.6
20 / 24	12	3	5	20	20.2
15 / 19	3	1	2	7	15.0
10 / 14	1	0	1	2	10.9
5 / 9	0		0	0	6.9

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.

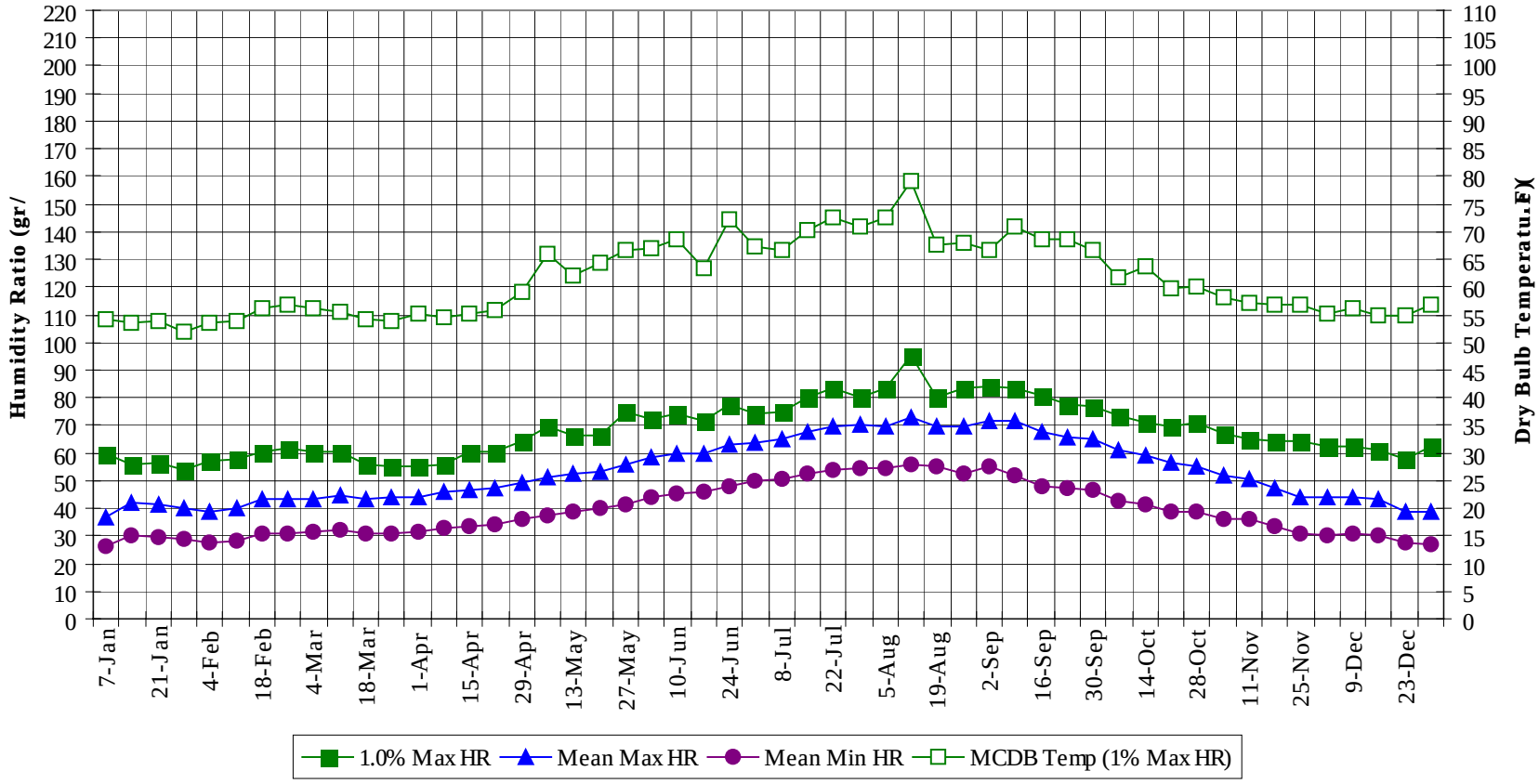
ASTORIA/CLATSOP OR WMO No. 727910

Annual Summary of Temperatures



ASTORIA/CLATSOP OR WMO No. 727910

Long Term Humidity and Dry Bulb Temperature Summary



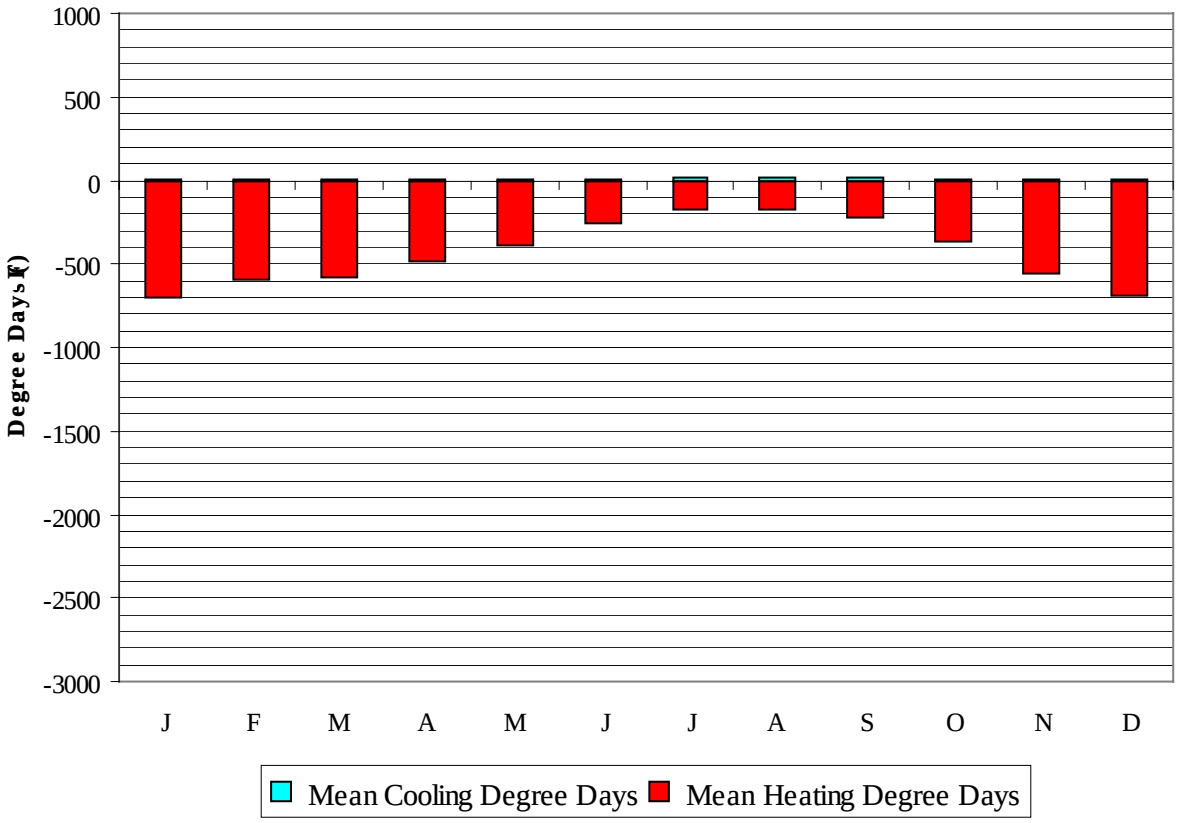
ASTORIA/CLATSOP OR WMO No. 727910

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	56.0	51.8	46.1	35.9	21.0	59.5	54.3	37.0	26.1
14-Jan	56.0	50.4	48.5	38.4	23.0	56.0	53.4	41.9	30.1
21-Jan	56.0	50.1	49.6	37.9	28.0	56.7	53.9	41.1	29.3
28-Jan	55.0	49.0	48.4	37.2	25.0	53.9	51.9	40.2	28.7
4-Feb	58.0	49.8	48.6	36.5	16.0	57.4	53.6	38.5	27.6
11-Feb	59.0	49.7	50.6	37.3	26.0	58.1	54.0	40.2	28.1
18-Feb	58.0	53.9	50.1	38.8	27.0	60.2	56.0	43.3	31.0
25-Feb	60.0	53.5	51.2	38.8	30.0	61.6	57.0	43.3	31.1
4-Mar	62.0	53.1	52.9	39.6	30.0	60.2	56.0	43.6	31.7
11-Mar	60.0	51.7	53.2	39.4	30.0	60.2	55.7	44.5	32.0
18-Mar	62.0	51.0	53.3	39.4	32.0	56.0	54.2	43.5	31.0
25-Mar	61.0	52.1	53.5	39.2	33.0	55.3	53.9	43.8	31.0
1-Apr	65.0	52.2	53.7	40.0	32.0	55.3	55.2	44.0	31.8
8-Apr	61.0	51.7	54.3	40.5	34.0	56.0	54.6	45.7	32.8
15-Apr	68.0	53.6	55.9	41.4	34.0	60.2	55.1	46.6	33.6
22-Apr	65.0	54.4	55.5	42.0	35.0	60.2	56.0	47.2	34.2
29-Apr	69.0	55.6	57.2	43.2	35.0	64.4	59.1	49.3	35.9
6-May	70.0	60.0	58.0	44.1	37.0	69.3	66.0	51.2	37.7
13-May	71.0	60.8	58.8	44.9	38.0	66.5	62.1	52.7	38.5
20-May	70.0	60.0	59.8	46.0	39.0	66.5	64.2	53.5	39.8
27-May	73.0	61.4	60.5	47.0	40.0	74.9	66.6	56.0	41.7
3-Jun	74.0	65.0	62.0	48.3	42.0	72.1	67.1	58.4	43.9
10-Jun	71.0	62.5	62.4	49.5	42.0	74.2	68.8	59.7	45.4
17-Jun	70.0	60.7	62.6	50.1	44.0	71.4	63.3	59.9	46.2
24-Jun	77.0	64.9	64.4	51.1	45.0	77.7	72.1	62.9	47.9
1-Jul	76.0	62.8	65.1	51.8	45.0	74.2	67.4	63.9	49.9
8-Jul	72.0	62.6	65.6	52.3	46.0	74.9	66.7	64.7	50.5
15-Jul	75.0	64.3	66.6	53.4	48.0	79.8	70.2	67.8	52.6
22-Jul	80.0	67.0	67.7	53.6	48.0	83.3	72.6	69.8	54.0
29-Jul	77.0	65.1	67.9	53.8	48.0	79.8	71.0	70.2	54.3
5-Aug	76.0	65.3	67.4	54.1	49.0	83.3	72.5	69.7	54.8
12-Aug	83.0	70.8	68.7	54.3	49.0	95.2	79.0	72.6	55.6
19-Aug	73.0	63.6	66.8	53.7	48.0	79.8	67.6	69.6	55.2
26-Aug	76.0	64.1	67.8	52.2	45.0	83.3	68.0	69.7	52.4
2-Sep	75.0	64.1	67.3	53.2	45.0	84.0	66.7	71.6	54.9
9-Sep	79.0	65.5	67.8	51.8	44.0	83.3	71.0	71.3	51.8
16-Sep	82.0	64.2	67.6	49.9	43.0	80.5	68.8	67.9	48.1
23-Sep	81.0	65.2	66.5	49.4	41.0	77.7	68.5	65.6	47.1
30-Sep	78.0	63.5	66.3	49.1	40.0	77.0	66.7	65.1	46.6
7-Oct	73.0	59.0	63.6	46.7	37.0	73.5	61.7	61.2	42.9
14-Oct	74.0	59.9	62.7	45.8	37.0	70.7	63.8	59.0	41.1
21-Oct	67.0	58.4	59.9	44.0	36.0	69.3	59.9	56.5	38.8
28-Oct	65.0	55.3	58.5	44.2	37.0	70.7	60.1	54.9	38.6
4-Nov	63.0	55.9	56.2	42.5	33.0	67.2	58.2	52.0	36.3
11-Nov	62.0	55.7	54.7	42.3	32.0	65.1	57.3	50.3	35.9
18-Nov	59.0	54.6	52.9	40.6	29.0	64.4	56.7	47.4	33.4
25-Nov	58.0	54.4	50.0	39.2	26.0	64.4	56.7	43.9	31.1
2-Dec	56.0	53.9	50.0	38.9	27.0	62.3	55.3	43.8	30.3
9-Dec	58.0	54.5	49.7	39.1	29.0	62.3	56.1	43.9	30.6
16-Dec	56.0	53.4	49.4	38.1	29.0	60.9	55.0	43.2	30.4
23-Dec	56.0	53.7	46.9	36.4	17.0	58.1	54.8	39.0	27.7
31-Dec	58.0	55.3	46.9	36.3	21.0	62.3	56.7	39.1	27.2

ASTORIA/CLATSOP OR WMO No. 727910

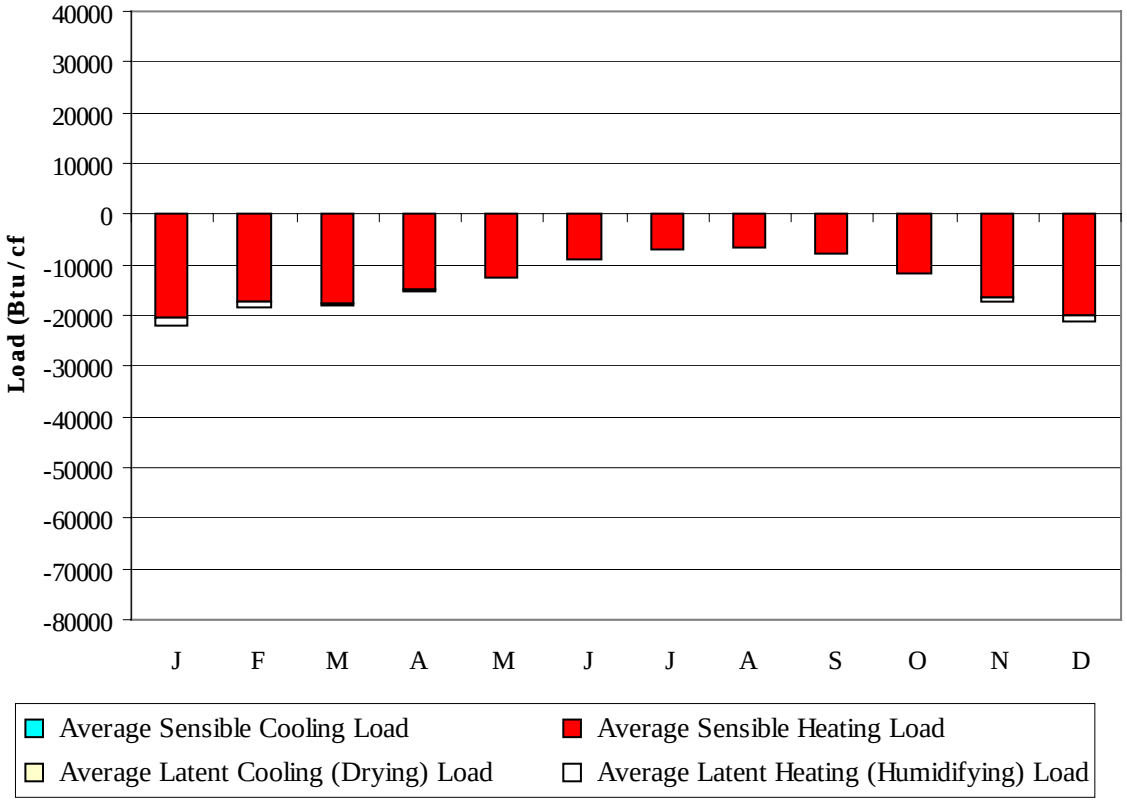
Degree Days, Heating and Cooling
(Base 65°F)



	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	696
FEB	0	587
MAR	0	584
APR	2	489
MAY	5	384
JUN	8	257
JUL	18	179
AUG	21	170
SEP	22	219
OCT	4	369
NOV	0	552
DEC	0	686
ANN	81	5172

ASTORIA/CLATSOP OR WMO No. 727910

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	-20463	0	-1464
FEB	0	-17399	0	-918
MAR	0	-17546	0	-394
APR	1	-14984	1	-116
MAY	10	-12310	2	-9
JUN	32	-8888	8	0
JUL	43	-6787	30	0
AUG	60	-6522	79	0
SEP	85	-7772	31	-3
OCT	6	-11831	1	-49
NOV	0	-16642	0	-573
DEC	0	-20182	0	-1114
ANN	237	-161326	152	-4640

Average Annual Solar Radiation – Nearest Available Site

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

City: ASTORIA
State: OR
WBAN No: 94224
Lat(N): 46.15
Long(W): 123.88
Elev(ft): 23

Stn Type: Secondary
SHADING GEOMETRY IN DIMENSIONLESS UNITS
Window: 1
Overhang: 0.711
Vert Gap: 0.329

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	360	560	880	1240	1550	1670	1710	1510	1210	760	420	310	1020
	Std Dev	42	67	90	114	130	143	133	129	97	85	48	29	37
	Minimum	280	410	710	1030	1270	1400	1450	1280	1030	600	340	270	940
	Maximum	440	720	1070	1430	1790	1930	1980	1770	1430	910	520	400	1080
	Diffuse	240	350	520	700	830	890	820	700	530	390	270	210	540
Clear Day	Global	630	980	1500	2080	2490	2650	2560	2200	1690	1130	700	540	1600
NORTH	Global	140	200	300	410	520	570	550	450	340	240	160	120	330
	Diffuse	140	200	300	400	480	520	500	430	340	240	160	120	320
Clear Day	Global	130	190	280	400	580	700	650	450	310	220	150	110	350
EAST	Global	250	360	530	700	820	830	830	760	720	480	280	210	570
	Diffuse	160	240	350	470	560	590	570	500	410	290	180	140	370
Clear Day	Global	560	770	1070	1350	1520	1570	1530	1400	1160	860	610	490	1080
SOUTH	Global	570	710	830	870	850	810	860	950	1080	920	620	520	800
	Diffuse	240	310	420	510	560	580	570	530	470	370	260	210	420
Clear Day	Global	1750	1900	1870	1590	1290	1140	1200	1440	1750	1880	1770	1660	1600
WEST	Global	240	370	560	760	940	1000	1070	970	800	520	280	210	650
	Diffuse	160	240	360	490	580	610	600	530	420	290	190	140	380
Clear Day	Global	560	770	1070	1350	1520	1570	1530	1400	1160	860	610	490	1080

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	230	370	610	880	1110	1200	1240	1090	850	520	270	190	720
NORTH	Unshaded	95	140	210	280	350	380	370	300	230	170	110	82	230
	Shaded	75	110	170	230	290	320	310	250	200	140	86	65	190
EAST	Unshaded	170	250	380	500	580	590	580	540	510	340	190	140	400
	Shaded	140	210	300	390	450	450	450	420	410	280	160	120	310
SOUTH	Unshaded	430	520	590	590	550	520	550	630	750	670	460	390	560
	Shaded	400	470	440	350	320	330	320	340	490	560	430	370	400
WEST	Unshaded	170	260	400	540	670	710	760	690	570	370	200	140	460
	Shaded	140	210	320	430	520	550	600	550	460	310	160	120	370

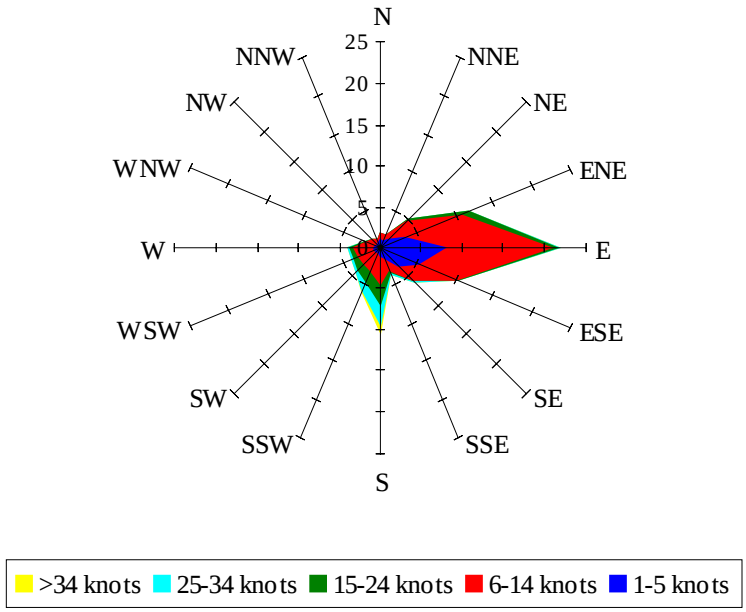
AVERAGE INCIDENT ILLUMINANCE (klux-hr) FOR MOSTLY CLEAR AND MOSTLY CLOUDY CONDITIONS, Percentage Uncertainty = 9

		March					June				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	29	59	70	57	26	44	78	95	94	71
	M.Cloudy	16	33	38	33	15	24	42	58	58	41
NORTH	M.Clear	8	12	13	12	8	16	15	16	16	14
	M.Cloudy	7	13	14	13	7	11	16	19	19	15
EAST	M.Clear	67	56	13	12	8	78	73	35	16	14
	M.Cloudy	19	24	14	13	7	24	31	26	19	15
SOUTH	M.Clear	35	73	86	69	31	11	37	55	53	30
	M.Cloudy	13	28	35	29	12	10	21	34	34	20
WEST	M.Clear	8	12	16	58	64	11	15	16	46	78
	M.Cloudy	7	13	14	26	20	10	16	19	31	36
M.Clear	(% hrs)	13	15	16	15	15	12	18	22	26	29

		Sept					Dec				
		9am	11am	1pm	3pm	5pm	9am	11am	1pm	3pm	5pm
HORIZ.	M.Clear	22	57	76	72	47	5	26	34	20	0
	M.Cloudy	12	31	45	44	27	3	15	17	12	0
NORTH	M.Clear	7	12	14	14	11	2	7	9	6	0
	M.Cloudy	6	12	16	15	10	2	7	7	5	0
EAST	M.Clear	59	69	32	14	11	20	35	9	6	0
	M.Cloudy	15	27	22	15	10	4	12	7	5	0
SOUTH	M.Clear	18	57	79	76	46	17	69	82	56	0
	M.Cloudy	8	24	39	39	21	4	18	20	14	0
WEST	M.Clear	7	12	14	47	73	2	7	14	38	0
	M.Cloudy	6	12	16	28	28	2	7	8	11	0
M.Clear	(% hrs)	29	33	37	39	42	13	14	15	15	16

Wind Summary - December, January, and February

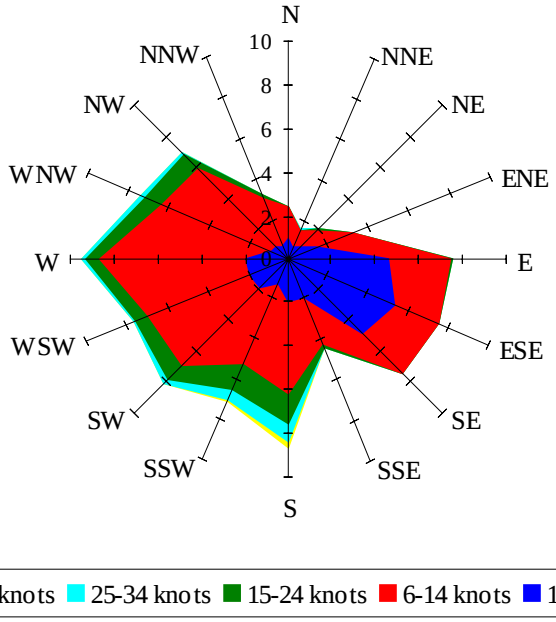
Labels of Percent Frequency on North Axis



Percent Calm = 7.19

Wind Summary - March, April, and May

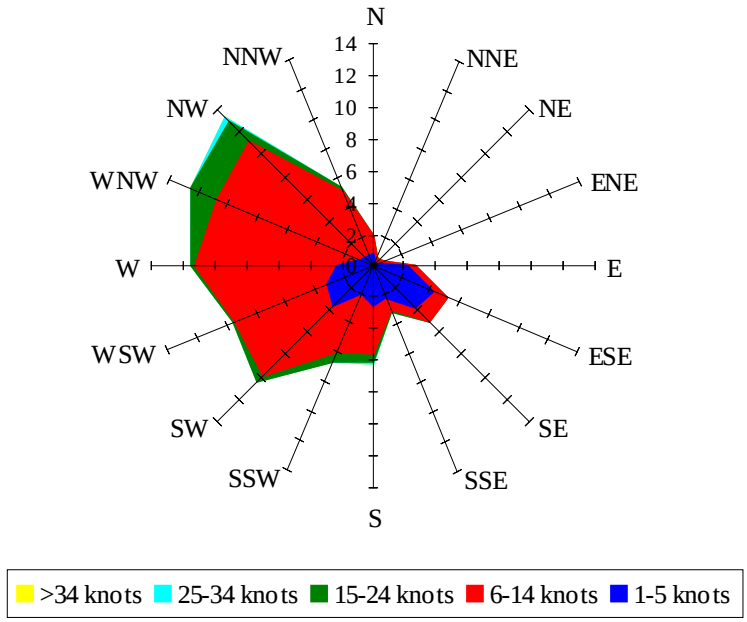
Labels of Percent Frequency on North Axis



Percent Calm = 6.29

Wind Summary - June, July, and August

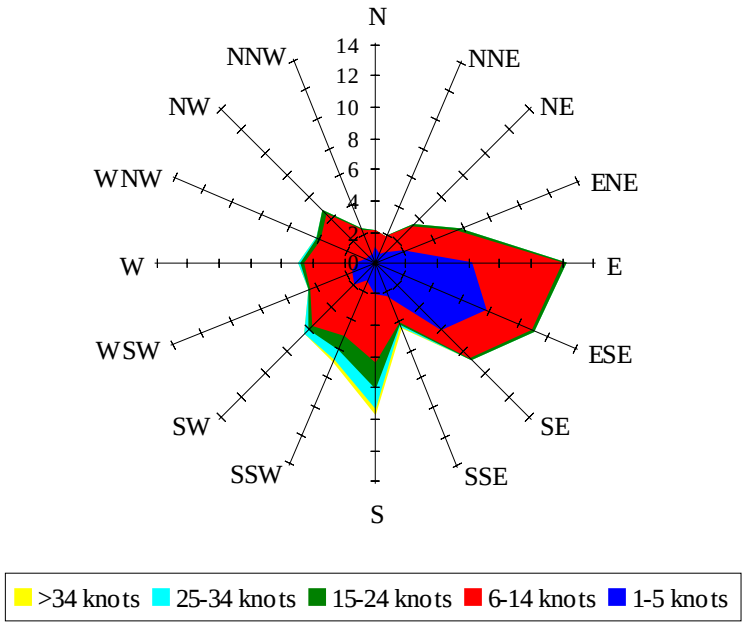
Labels of Percent Frequency on North Axis



Percent Calm = 5.42

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 7.85