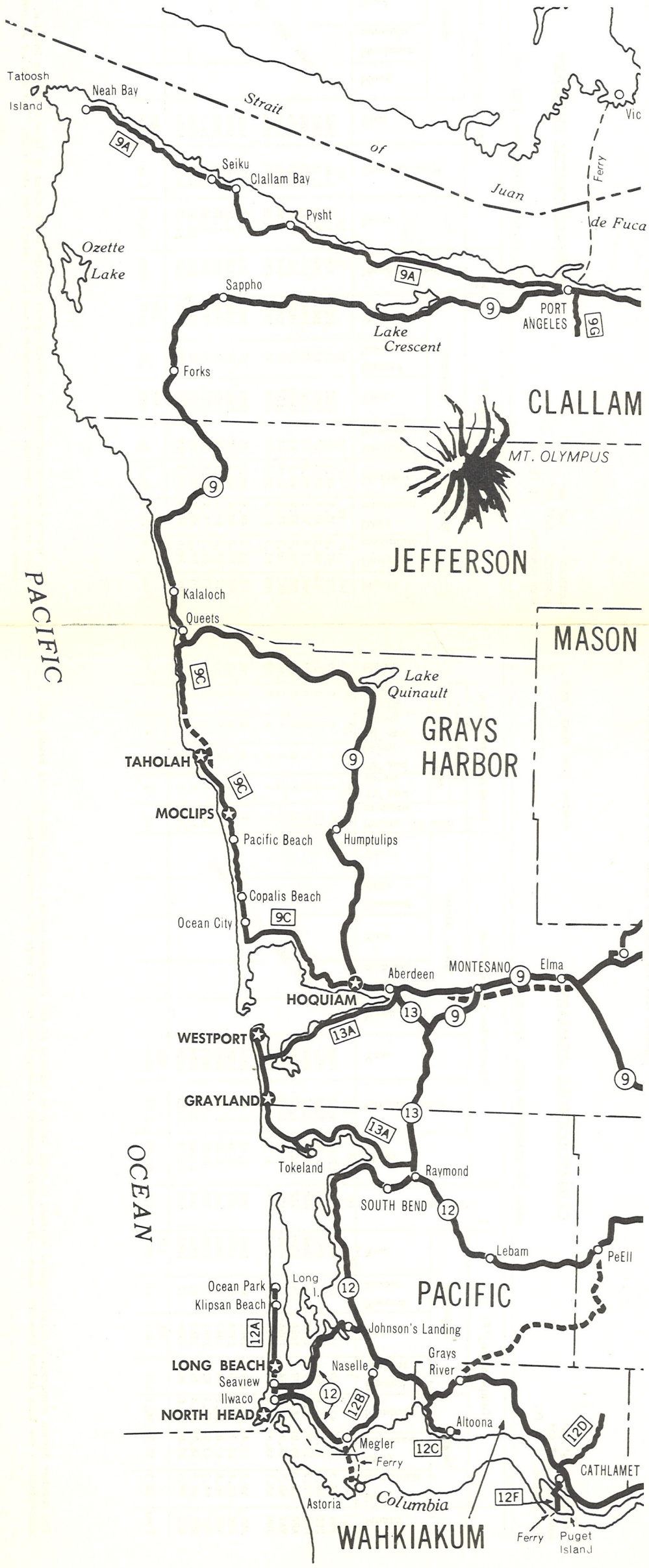
U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU IN COOPERATION WITH
THE WASHINGTON STATE DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT
CLIMATOGRAPHY OF THE UNITED STATES 20-45



WASHINGTON OCEAN BEACHES

NARRATIVE CLIMATOLOGICAL SUMMARY

The climate of the beach area along the Washington coast is a mid-latitude, west coast, marine-type. The summers are cool and comparatively dry, and the winters are mild, wet, and rather cloudy. The air is moist and the daily and annual range in temperature is small. Some of the factors influencing the climate are: the prevailing direction of the wind, surface temperature of the ocean, the Coastal and Cascade Mountains, and the position and intensity of the large high and low pressure centers over the north Pacific Ocean. The ocean current near the coast reverses direction between summer and winter; in summer, the California current is moving south and in the winter, the Davidson inshore current is moving north. The temperature of the water along the coast ranges from 48° in February and March to 58° in August.

During the spring and summer, a clockwise circulation of air around the large high pressure area, which covers most of the eastern north Pacific, brings a prevailing flow of air from a northwesterly direction into Washington. The average temperature of the air over the ocean in mid-summer ranges from 55° to 60° and the dewpoint from 50° to 55°. As the air moves inland, it becomes warmer and drier. This circulation results in a dry season beginning in the late spring and reaching a peak in mid-summer. During July and August, it is not unusual for two to four weeks to pass with only a few light rain showers. At this season of the year, the wind is comparatively light ranging from a gentle to a fresh ocean breeze. Off shore, seas 8 feet or higher occur less than 5 percent of the time, and seas 5 feet or higher from 10 to 15 percent of the time. In the latter half of the summer and fall, fog banks frequently form off shore, moving inland at night, and clearing along the beaches by the following noon.

In midsummer, the average afternoon temperature ranges from 65° to 68° and the nighttime temperature is near 50°. A few miles inland, afternoon temperatures are in the 70's. Occasionally, hot dry easterly winds crossing the Cascade Mountains reach the coast. The hottest weather occurs under these conditions and maximum temperatures may reach 90° or higher, while the relative humidity drops to 30%. High temperatures seldom continue more than one to three days before cooler moist air from over the ocean moves inland. During periods of dry easterly winds, forest fires are started easily and spread rapidly.

In the fall and winter, the low pressure center near the Aleutian Islands intensifies and spreads southward. At the same time, the high pressure center becomes smaller and also moves south. This results in a prevailing flow of warm moist air from a southwesterly direction. Weather disturbances crossing the north Pacific follow a more southerly course during the winter, which results in an increased number of storms striking the Washington coast. Wind velocities ranging from 50 to 70 MPH occur almost every winter as the more intense storms move inland. The highest wind velocity ever recorded at Tatoosh Island is 94 MPH and at North Head 113 MPH. On one of the higher and well exposed peaks in the Willapa Hills, elevation 2000 feet, wind velocities in excess of 100 MPH have occurred several times in the last 5 years.

During the autumn and winter, seas off shore are 5 feet or higher 20 to 30 percent of the time; 8 feet or higher 10 to 20 percent of the time; and 12 feet or higher 5 percent of the time. In the spring, the ocean gradually becomes more calm as the frequency of storms over the north Pacific decreases and the high pressure area spreads northward. The prevailing direction of the wind gradually shifts from southwest in the winter to west in the spring; northwest by early summer; and back to west in the early fall.

The rainy season begins in the fall, reaches a peak in the winter, then decreases in the spring. Along the entire coast, variations of 5 to 20 inches in the annual precipitation occur within short distances. In general, the annual precipitation ranges from 65 to 75 inches in beach areas located some distance from the hills. Near the foothills, annual precipitation amounts range from 80 to 90 inches, increasing to 100 inches in the Willapa Hills and 125 to 150 inches or more in the "rain forest" along the windward slopes of the Olympic Mountains. Rainfall is usually of moderate intensity over a period of 12 to 24 hours, rather than of heavy intensity for a brief period. Research on the frequency of rainfall amounts of various intensities, and maps given in Weather Bureau Technical Paper No. 40, indicate the following amounts can be expected to occur at least once in a 5-year period: 0.6 of an inch in 30 minutes; 0.7 of an inch in one hour; 1.5 inches in 3 hours; 2.5 inches in 6 hours; and 4.3 inches in 24 hours. Once in a 25-year period, the intensities to expect are: 0.8 of an inch in 30 minutes; 1.0 inch in 1 hour; 2 inches in 3 hours; 3.5 inches in 6 hours; and 6.0 inches in 24 hours. The intensity of rainfall will be less along some of the low level beaches and greater in the foothills and along the windward slopes of the Willapa Hills and Olympic Mountains.

Snowfall is light in the beach areas and frequently melts as it falls. Inland, snowfall increases in the foothills, and the higher elevations of the Olympic Mountains are covered with snow from early winter until late spring.

In the winter, afternoon temperatures are in the 40's and nighttime temperatures in the upper 30's. The coldest weather usually occurs when cold dry northeasterly or easterly winds from east of the Cascade Mountains reach the coast. The sky is frequently clear under these conditions and additional heat is lost by radiation at night. Minimum temperatures may drop to 20° or lower and maximum temperatures fail to rise above the mid-30's. Cold weather seldom continues more than a few days before warmer moist air from over the ocean moves inland. In the cranberry bogs, near the ocean, the average last occurrence of 32° or a freezing temperature in the spring, is about the middle of April, and the first freeze in the fall is near the end of October.

Earl L. Phillips
State Climatologist
U.S. Weather Bureau
Seattle, Washington

CLIMATOLOGICAL SUMMARY

Latitude: 46° 18'N
Longitude: 124° 05'W
Elevation(ground) 194 ft.

NORMALS, MEANS, AND EXTREMES

NORTH HEAD, WASH.
(Light House Reservation)

Month	Temperature: Normal: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	Normal degree days	Precipitation: Normal total	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, Sleet: Mean total	Maximum monthly	Year	Maximum in 24 hrs.	Year	Relative humidity: 4:00 a.m. PST	10:00 a.m. PST	4:00 p.m. PST	10:00 p.m. PST	Wind: Mean hourly speed	Prevailing direction	Fastest mile: Speed	Direction	Year	Pct of poss. sunshine	Average sky cover sunrise to sunset	Mean number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, Sleet, 1.0 or more	Thunderstorms	Heavy fog	Max. temp.: 90°	32°	Min. temp.: 32°	Zero
(a)	65	65	65	65		65		22	75	75		75		66		63	63		57		65	15	65	15	50		41			47	59	65	65	65	65		65	66	66	66	66	66	66
J	46.0	37.8	41.9	67	1931	11	1888	700	8.43	22.28	1880	1.63	1949	4.29	1895	2.7	20.1	1916	8.0	1893	87	80	84	82	16.4		113		1921	28	7.8	4	5	22	22		*	3	0	1	5	0
F	47.6	39.0	43.3	71	1905	14	1887	593	7.23	21.66	1902	.42	1920	3.69	1916	1.6	12.5	1887	6.5	1939	87	84	83	86	15.4		84		1938	36	7.4	5	5	18	19		*	3	0	*	3	0
M	49.7	40.7	45.2	79	1905	22	1896	603	5.83	14.12	1887	1.15	1885	2.98	1935	.5	9.0	1951	3.4	1936	88	82	82	86	15.2		72		1945	41	7.2	5	8	18	19		*	2	0	0	1	0
A	52.7	43.7	48.2	88	1906	33	1911	484	3.91	10.89	1893	.85	1936	2.74	1893	T	1.0	1911	1.0	1911	88	78	81	84	14.7		89		1943	48	6.9	5	9	16	17		*	2	0	0	0	0
M	55.8	47.4	51.6	86	1947	35	1922	395	2.79	8.19	1895	.49	1924+	2.63	1948						89	80	82	86	14.8		68		1937	48	6.9	5	10	16	15		*	2	0	0	0	0
J	58.9	51.1	55.0	97	1925	44	1952+	286	2.18	6.60	1900	T	1883	2.00	1931						90	83	83	88	14.3		66		1929	45	6.8	5	9	16	13		*	2	*	0	0	0
J	61.3	53.7	57.5	97	1906	46	1887	227	.96	5.06	1879	0	1896	1.74	1947						92	87	84	91	14.0		54		1921	49	6.5	7	9	15	9		*	4	*	0	0	0
A	62.2	54.2	58.2	94	1942	46	1928	210	1.11	3.42	1941	T	1883	1.78	1890						93	88	86	93	12.5		60		1920	46	6.5	7	9	15	9		*	8	*	0	0	0
S	61.4	52.4	56.9	93	1934	42	1926	239	2.87	6.58	1933	T	1918	2.89	1931						91	86	85	91	12.4		73		1914	47	6.2	8	8	14	12		1	7	*	0	0	0
O	57.9	49.2	53.5	87	1936	27	1935	345	5.15	11.00	1947	.32	1895	2.94	1942	T	.3	1935	.3	1935	90	85	85	89	13.5		109		1934	40	6.8	7	7	17	16		1	6	0	0	*	0
N	52.4	44.2	48.3	74	1949	20	1896	497	8.05	16.63	1899	1.12	1936	3.27	1932	T	2.0	1896	2.0	1896	88	81	85	84	15.7		91		1937	32	7.6	5	5	20	20		1	3	0	0	*	0
D	48.0	40.3	44.2	66	1947	16	1924	626	9.37	21.85	1933	4.22	1927	3.59	1925	.4	6.5	1919	4.8	1923	88	83	86	84	16.8		104		1940	27	7.8	4	6	21	23		*	2	0	*	2	0
Yr	54.5	46.1	50.3	97	JUN 1925+	11	JAN 1888	5205	57.88	22.28	JAN 1880	0.00	JUL 1896	4.29	JAN 1895	5.2	20.1	JAN 1916	8.0	JAN 1893	89	83	84	87	14.6		113		1921	41	7.0	67	90	208	194		3	44	*	1	11	0

(a) Length of record, years. Period of record ending December 31, 1952

The Weather Bureau station at North Head was located on the U.S. Coast Guard Reservation near the mouth of the Columbia River. The buildings and weather equipment were located approximately 3 miles north of the Columbia River and on a high narrow section of land extending several hundred feet out into the ocean. This station was closed in 1953.

LATITUDE 46° 23'
LONGITUDE 124° 02'
ELEV. (GROUND) 25 ft.

CLIMATOLOGICAL SUMMARY

STATION LONG BEACH, WASH.

MEANS AND EXTREMES FOR PERIOD 1953-1962

Month	Temperature (°F): Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures: Max.: 75° and above	32° and below	Min.: 32° and below	0° and below	Month
(a)	10	10	10	10		10		10	10	10							9	10	10	10	10	
JAN	48.3	35.6	42.0	69	1961	11	1962	715	12.05	3.02	1954						17	0	*	9	0	JAN
FEB	50.6	36.5	43.6	67	1954	17	1962	600	10.54	3.10	1961						17	0	*	7	0	FEB
MAR	52.2	35.7	44.0	70	1960	16	1960	650	8.88	3.33	1956						17	0	0	9	0	MAR
APR	56.0	40.0	48.0	82	1956	25	1960	510	6.38	1.86	1962						13	*	0	4	0	APR
MAY	60.5	43.9	52.2	84	1958+	32	1962+	395	3.42	1.18	1960						9	2	0	*	0	MAY
JUN	63.5	48.4	56.0	95	1955	34	1961	270	3.22	1.90	1958						7	1	0	0	0	JUN
JUL	66.3	50.4	58.4	101	1961	34	1960	205	1.42	1.42	1954						3	1	0	0	0	JUL
AUG	66.4	50.2	58.3	79	1953	35	1959	210	2.24	1.53	1958						5	1	0	0	0	AUG
SEP	66.6	47.0	56.8	88	1962	29	1961	245	3.33	1.96	1953						7	3	0	*	0	SEP
OCT	61.3	43.5	52.4	82	1961	27	1960	390	8.05	1.63	1955						14	1	0	2	0	OCT
NOV	54.0	38.7	46.4	75	1962	14	1955	560	11.52	3.05	1955						16	*	1	7	0	NOV
DEC	50.5	37.0	43.8	65	1960	17	1962	655	11.74	2.95	1955						16	0	0	9	0	DEC
Year	58.0	42.2	50.1	101	JUL 1961	11	JAN 1962	5405	82.79	3.33	MAR 1956						141	9	1	47	0	Year

SNOW DATA NOT AVAILABLE

The Weather Bureau cooperative climatological station at Long Beach is located at the Cranguyma Farms, 3 miles NNE of Long Beach, and approximately one mile inland from the ocean. The weather equipment is installed near the edge of a cranberry bog.

LATITUDE 46° 46'
LONGITUDE 124° 05'
ELEV. (GROUND) 15 ft.

CLIMATOLOGICAL SUMMARY

STATION GRAYLAND, WASH.

MEANS AND EXTREMES FOR PERIOD 1953-1962

Month	Temperature (°F): Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures: Max.: 75° and above	32° and below	Min.: 32° and below	0° and below	Month
(a)	10	10	10	10		10		10	10	10							9	10	10	10	10	
JAN	47.6	35.9	41.8	68	1961	11	1957	720	11.10	2.65	1954						17	0	*	9	0	JAN
FEB	50.0	37.0	43.5	67	1954	17	1962	600	9.43	2.38	1961						15	0	0	7	0	FEB
MAR	51.6	36.1	43.9	73	1960	22	1960+	655	8.32	3.26	1959						16	0	0	10	0	MAR
APR	55.9	39.9	47.9	83	1956	27	1955	515	5.57	2.20	1959						12	*	0	3	0	APR
MAY	60.2	43.6	51.9	84	1959	27	1954	405	3.06	1.30	1960						8	1	0	*	0	MAY
JUN	63.3	47.9	55.6	94	1955	37	1955	280	2.66	1.09	1956						7	1	0	0	0	JUN
JUL	66.3	49.8	58.1	96	1961	37	1954	215	1.38	1.51	1955						3	2	0	0	0	JUL
AUG	67.0	49.8	58.4	90	1961	37	1959+	205	2.14	1.30	1956						5	1	0	0	0	AUG
SEP	67.2	47.6	57.4	92	1955	34	1960+	230	3.25	2.22	1959						7	3	0	0	0	SEP
OCT	61.2	44.4	52.8	81	1953	29	1954	380	7.60	2.06	1955						12	1	0	1	0	OCT
NOV	54.2	38.8	46.5	68	1962	12	1955	555	10.82	3.24	1955						16	0	*	6	0	NOV
DEC	50.0	37.9	44.0	64	1957	19	1962	650	11.07	3.50	1956						17	0	*	6	0	DEC
Year	57.9	42.4	50.2	96	JUL 1955	11	JAN 1957	5410	76.40	3.50	DEC 1956						135	9	*	42	0	Year

SNOW DATA NOT AVAILABLE

The Weather Bureau cooperative climatological station at Grayland is located at the David H. Pride cranberry farm. This location is two miles south of Grayland and approximately one mile inland from the ocean. The weather equipment is installed near the edge of a cranberry bog.

LATITUDE 46° 59'
LONGITUDE 123° 56'
ELEV. (GROUND) 14 ft.

CLIMATOLOGICAL SUMMARY

STATION HOQUIAM, WASH. (FAA)
Moon Island Airport

MEANS AND EXTREMES FOR PERIOD 1953-1962

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max.: 75° and above	32° and below	Temperatures Min.: 32° and below	0° and below	Month
(a)	10	10	10	10		10		10	10	10		10	10		10		9	10	10	10	10	
JAN	46.1	36.2	41.2	63	1961	16	1957	740	12.30	3.41	1953	1.6	7.4	1954	2.0	1960+	18	0	1	9	0	JAN
FEB	48.7	36.6	42.7	61	1958+	18	1956	625	8.64	2.26	1961	.7	3.0	1956	2.0	1962+	16	0	*	8	0	FEB
MAR	50.6	36.2	43.4	71	1953	23	1955	670	8.47	2.60	1956	.7	4.0	1960	4.0	1960	16	0	0	8	0	MAR
APR	55.6	40.0	47.8	83	1956	28	1956+	515	5.43	3.00	1959	T	T	1956+	T	1956+	11	*	0	2	0	APR
MAY	61.1	45.1	53.1	87	1958	29	1954	370	3.01	1.58	1960						8	2	0	*	0	MAY
JUN	64.6	49.4	57.0	93	1955	36	1956	240	2.50	1.77	1956						7	2	0	0	0	JUN
JUL	68.1	51.6	60.0	98	1961	40	1955	155	1.26	.99	1955						3	3	0	0	0	JUL
AUG	68.6	52.5	60.6	93	1961	41	1955	135	1.79	1.45	1956						4	3	0	0	0	AUG
SEP	67.6	49.8	58.7	89	1960+	35	1955	190	3.50	2.21	1959						7	4	0	0	0	SEP
OCT	60.4	44.8	52.6	80	1961	31	1954	385	7.78	2.02	1956	T	T	1954+	T	1954+	13	1	0	*	0	OCT
NOV	51.8	39.2	45.5	65	1962	12	1955	585	11.33	4.78	1955	.8	5.3	1955	3.0	1955	16	0	*	6	0	NOV
DEC	47.6	37.3	42.5	58	1957	25	1962+	700	11.18	3.77	1956	.7	5.0	1955	5.0	1955	18	0	0	6	0	DEC
Year	57.6	43.2	50.4	98	JUL 1961	12	NOV 1955	5310	77.19	4.78	NOV 1955	4.5	7.4	JAN 1954	5.0	DEC 1955	137	15	1	39	0	Year

Temperature and precipitation data included in the summary for Hoquiam were recorded at the Federal Aviation Agency Station located at the Moon Island Airport. This small island in Grays Harbor is approximately one mile southwest of Hoquiam and is connected to the mainland by a narrow roadway.

Latitude: 46°54'
Longitude: 124°06'
Elevation (ground): 18 ft.

Total Precipitation (Inches)

Station: WESTPORT, WASH.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1948	-	-	-	-	8.74	-	-	2.69	-	-	-	13.49	-
1949	1.79	13.28	5.64	3.34	-	1.06	1.77	1.91	2.25	7.94	13.19	11.19	-
1950	12.76	-	14.85	-	2.00	.87	2.17	3.03	2.77	13.61	10.40	14.18	-
1951	12.29	-	-	1.67	1.49	.36	.20	.02	-	-	-	-	-
1952	12.69	5.40	6.53	2.79	1.54	2.18	.44	2.40	.70	2.04	4.24	11.92	52.87
1953	20.84	5.02	6.57	3.55	3.94	1.66	.35	2.92	2.45	4.00	10.81	13.53	75.64
1954	-	9.74	4.05	4.38	1.26	-	-	2.34	2.50	4.37	12.40	9.05	-
1955	4.90	4.25	6.77	6.23	1.83	1.96	4.02	.00	2.09	11.19	11.24	13.45	67.93
1956	12.55	7.43	10.58	.27	1.26	3.31	1.25	1.22	4.54	-	4.33	11.38	-
1957	4.96	6.02	9.41	3.78	2.32	2.06	1.81	1.25	1.07	4.17	5.19	11.15	53.19
1958	12.28	9.63	3.60	6.37	1.73	2.10	.07	1.20	3.14	6.22	10.86	8.93	66.13
1959	10.93	7.09	9.09	5.34	2.25	2.68	.61	.99	6.70	4.42	10.71	9.44	70.25
1960	11.19	7.96	6.79	6.37	6.78	1.27	.00	2.56	1.71	5.97	12.12	6.45	69.17
1961	11.70	18.39	9.58	4.59	2.45	.82	.30	1.29	1.23	5.87	8.95	9.31	74.48
Average	10.74	8.56	7.79	4.06	2.89	1.69	1.08	1.63	2.60	6.35	9.54	11.04	67.97

The Weather Bureau cooperative recording raingage station at Westport is located at the U.S. Coast Guard Station. The raingage is installed near the Headquarters Building at the entrance to Grays Harbor.

LATITUDE 47° 18'
LONGITUDE 124° 17'
ELEV. (GROUND) 100 ft.

CLIMATOLOGICAL SUMMARY

STATION POINT GRENVILLE, WASH.
(U.S. Coast Guard Station)

MEANS AND EXTREMES FOR PERIOD 1952-1962

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max.: 75° and above	32° and below	Temperatures Min.: 32° and below	0° and below	Month
(a)	11	11	11	11		11		11	12	11		11	11		11		9	11	11	11	11	
JAN	47.2	36.6	41.9	67	1961	16	1962	715	13.62	3.62	1958	.8	2.7	1951	2.5	1951	19	0	1	7	0	JAN
FEB	48.3	37.4	42.9	62	1954	18	1962+	620	10.52	3.13	1961	.8	6.5	1962	2.0	1957	16	0	0	5	0	FEB
MAR	48.7	36.5	42.6	65	1962	24	1955	695	8.78	2.76	1956	1.6	12.0	1951	10.0	1951	17	0	0	6	0	MAR
APR	52.6	39.9	46.3	74	1956	27	1953	560	6.05	4.20	1959	T	T	1955+	T	1955+	12	0	0	1	0	APR
MAY	56.9	44.6	50.8	81	1959	28	1959	440	3.40	1.78	1960						9	*	0	*	0	MAY
JUN	59.6	48.4	54.0	82	1958	36	1961	330	3.06	1.94	1956						8	*	0	0	0	JUN
JUL	61.7	51.0	56.4	81	1959	36	1955	265	1.74	1.37	1955						4	1	0	0	0	JUL
AUG	62.0	51.2	56.6	75	1952	40	1961	260	2.34	1.41	1961						5	*	0	0	0	AUG
SEP	62.2	49.7	56.0	83	1961	37	1961	270	3.69	1.63	1962						8	*	0	0	0	SEP
OCT	57.6	45.3	51.5	76	1959	34	1961+	420	8.25	2.80	1955	T	T	1955+	T	1955+	13	*	0	0	0	OCT
NOV	51.6	39.7	45.7	66	1959	14	1955	580	13.48	6.49	1959	.2	2.2	1955	1.0	1955	17	0	*	4	0	NOV
DEC	48.6	38.2	43.4	64	1957	24	1956	670	13.34	5.92	1959	.2	1.7	1956	1.7	1956	19	0	*	5	0	DEC
Year	54.8	43.2	49.0	83	SEP 1961	14	NOV 1955	5825	88.27	6.49	NOV 1959	3.6	12.0	MAR 1951	10.0	MAR 1951	147	1	1	28	0	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

\+ Also on earlier dates, months, or years.

* Less than one half.

The Weather Bureau cooperative climatological station at Point Grenville is located at the U.S. Coast Guard Station. The weather equipment is approximately 300 feet from the ocean.

Latitude: 47°13'
Longitude: 124°12'
Elevation (ground): 115 ft.

Total Precipitation (Inches)

Station: MOCLIPS, WASH.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1942	7.13	4.83	5.39	4.89	3.02	4.72	2.02	.19	1.22	7.77	-	-	-
1943	4.77	8.14	-	-	3.66	1.29	1.09	3.62	1.07	-	-	-	-
1944	9.65	4.36	4.62	4.99	2.15	.53	.05	1.31	4.69	5.23	13.59	5.23	56.40
1945	12.09	-	13.77	3.13	3.11	.27	1.83	.25	4.75	-	13.24	-	-
1946	11.68	15.07	8.83	7.18	.60	5.44	3.32	.16	2.72	7.61	7.82	8.34	78.77
1947	11.33	6.46	-	-	1.06	-	-	-	-	-	-	-	-
1948	6.43	10.63	4.52	7.94	8.47	1.01	1.64	3.10	4.99	5.50	14.62	14.51	83.36
1949	1.96	12.40	6.63	4.52	1.83	1.13	1.83	2.06	3.69	6.94	12.92	10.41	66.32
1950	10.85	16.61	16.96	9.03	2.72	1.15	2.26	3.17	2.32	17.23	-	-	-
1951	-	11.79	6.18	1.57	2.04	.25	.54	.04	5.16	10.12	14.08	8.52	-
1952	15.08	5.08	7.03	3.82	1.06	2.61	.51	2.05	1.47	2.07	6.69	16.64	64.11
1953	21.05	6.20	8.53	4.74	4.38	2.29	.71	3.03	2.97	6.90	14.98	15.11	90.89
1954	16.21	10.80	4.14	5.40	1.93	4.74	1.89	1.87	3.04	5.46	17.57	10.58	83.63
1955	6.76	5.14	7.63	8.27	2.00	2.60	5.18	.00	2.02	14.50	13.58	13.62	81.30
1956	13.49	8.45	10.52	1.13	1.51	5.50	1.39	1.15	4.81	13.76	4.28	12.38	78.37
1957	5.82												
Average	10.29	9.00	8.06	5.12	2.64	2.40	1.73	1.57	3.20	8.59	12.12	11.53	76.25

The Weather Bureau cooperative recording raingage station located at Moclips was approximately 1/4 mile from the ocean. The cooperative weather observers at this station were: Donald S. Ross, Virginia K. Ross, Robert S. Rath and Charles E. Ross. This station was closed in 1957.

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
NORTH HEAD, WASH.													
1933	40.2	39.4	44.1	46.2	48.8	54.5	55.2	58.1	54.6	52.7	48.7	46.2	49.1
1934	47.2	50.2	50.3	52.2	55.4	55.2	57.6	58.7	57.0	54.2	50.5	46.2	52.9
1935	43.5	47.6	42.0	48.2	50.4	56.0	57.4	57.0	57.2	51.3	44.8	47.3	50.2
1936	45.2	38.8	43.0	49.8	53.1	58.1	59.9	60.6	56.4	55.2	50.5	44.2	51.2
1937	34.4	42.7	47.4	46.2	50.9	56.4	57.4	58.6	57.8	57.2	50.8	46.0	50.5
1938	45.4	44.8	45.4	49.8	50.6	54.2	56.0	57.4	57.8	55.5	47.6	44.6	50.8
1939	44.1	41.0	44.8	50.0	53.4	55.1	57.2	58.8	57.4	53.6	52.0	48.6	51.3
1940	45.7	47.2	48.8	52.0	54.0	55.2	58.8	59.5	60.2	57.0	47.1	46.5	52.7
1941	47.6	50.0	51.6	51.6	54.8	58.1	61.0	58.6	58.2	55.2	50.7	44.2	53.5
1942	43.5	44.7	45.4	49.6	53.4	56.7	61.9	59.9	57.0	55.0	47.4	44.6	51.6
1943	39.2	46.7	45.0	49.4	50.6	54.6	56.4	58.0	58.7	54.5	51.4	45.8	50.9
1944	44.5	44.2	44.2	48.6	52.4	54.6	56.9	59.0	57.4	57.2	48.6	45.4	51.1
1945	45.8	44.6	44.4	46.4	53.0	53.8	55.3	55.0	55.4	52.0	46.0	44.4	49.7
1946	44.0	43.2	44.9	47.3	53.0	55.5	58.8	56.4	57.2	50.6	45.2	43.6	50.0
1947	40.0	46.4	48.8	51.0	54.0	57.2	60.5	59.5	58.4	53.8	47.8	46.6	52.0
1948	43.7	41.4	44.0	45.8	51.6	57.4	58.2	59.8	58.0	53.0	45.1	40.2	49.8
1949	34.9	40.4	46.4	48.8	53.2	53.6	55.9	60.1	58.6	50.4	53.2	43.0	49.9
1950	33.6	42.4	43.8	47.0	48.9	56.4	56.7	58.4	55.7	52.1	47.5	48.4	49.2
1951	41.3	44.0	41.5	48.5	52.2	54.8	58.6	57.9	55.9	53.4	47.9	41.4	49.8
1952	39.9	41.6	43.1	47.6	51.2	53.6	56.3	57.8	57.2	55.8	47.4	44.8	49.7
LONG BEACH, WASH.													
1953	-	-	-	-	-	54.9	58.7	59.5	58.7	54.0	49.5	45.5	-
1954	40.0	45.0	42.9	48.2	54.3	53.9	57.2	58.8	57.4	52.8	51.6	-	-
1955	41.6	41.2	41.4	44.0	49.4	55.5	57.7	56.5	55.7	51.6	42.8	41.6	48.3
1956	41.8	38.8	42.9	49.2	53.8	55.7	59.8	58.6	56.7	-	46.0	43.4	-
1957	37.0	42.1	45.7	48.8	54.1	57.4	58.2	58.8	60.8	53.2	46.3	45.4	50.6
1958	46.8	49.7	44.8	49.0	55.2	61.2	61.9	59.8	57.5	52.8	44.2	46.6	52.4
1959	-	-	-	-	-	56.5	58.9	57.2	55.6	53.6	45.4	42.3	-
1960	39.8	42.5	44.1	48.4	50.3	54.7	54.3	57.1	54.9	51.0	45.6	43.1	48.8
1961	47.0	45.6	45.4	46.7	51.4	56.5	60.7	58.5	54.1	50.1	43.3	41.6	50.1
1962	40.2	43.8	43.0	48.2	49.5	53.7	56.1	58.5	56.6	52.7	49.1	44.1	49.6
GRAYLAND, WASH.													
1953	-	-	-	-	-	54.2	58.4	60.0	58.6	55.1	49.0	44.9	-
1954	39.3	45.1	41.5	46.3	51.7	53.7	56.6	57.8	57.9	53.1	49.7	43.9	49.7
1955	41.6	41.1	40.5	43.8	49.0	55.2	56.8	55.3	55.9	52.0	41.8	40.7	47.8
1956	40.9	38.5	42.6	48.6	52.8	54.9	59.1	58.8	56.8	50.7	46.4	43.0	49.4
1957	36.3	42.2	45.8	49.0	53.0	56.7	57.4	59.1	61.1	53.2	46.4	45.5	50.4
1958	46.8	49.1	45.1	49.2	55.2	60.7	61.0	59.8	57.9	54.2	45.5	47.5	52.7
1959	43.2	43.2	45.3	49.2	51.9	56.6	58.8	57.4	55.4	52.9	47.4	43.1	50.4
1960	41.2	42.6	45.6	49.1	51.4	54.0	55.9	58.6	56.8	53.0	46.5	43.7	49.9
1961	46.3	45.7	45.2	47.2	52.1	56.3	60.7	59.1	55.6	50.4	43.9	42.6	50.4
1962	40.2	44.0	42.9	49.1	50.4	53.7	55.9	58.3	58.0	53.4	48.8	44.8	50.0
HOQUIAM, WASH.													
1953	-	-	-	-	-	55.6	61.0	62.0	59.9	55.0	48.2	44.4	-
1954	38.2	43.3	42.3	46.1	53.5	55.2	57.6	58.3	58.1	52.1	49.9	41.4	49.7
1955	39.9	39.6	40.0	43.7	49.4	55.5	56.4	57.7	56.5	51.2	40.8	39.4	47.5
1956	40.1	37.3	41.8	48.7	54.9	55.0	61.1	60.6	57.8	50.4	44.4	41.8	49.5
1957	35.2	41.3	44.8	49.1	55.3	58.2	59.6	60.4	62.8	52.1	45.3	43.8	50.7
1958	44.7	48.2	44.5	48.7	56.7	62.1	63.1	62.7	59.4	54.3	45.0	45.8	52.9
1959	41.9	41.8	44.6	49.2	52.4	57.9	60.8	59.1	57.1	53.3	45.9	41.6	50.5
1960	40.6	42.9	43.8	48.2	51.4	56.4	59.7	60.8	58.7	53.7	45.8	42.0	50.3
1961	46.0	45.7	45.0	47.4	53.2	58.9	61.8	63.3	58.0	50.6	42.7	41.5	51.2
1962	39.9	44.1	43.0	49.3	50.8	55.3	57.8	60.7	58.9	53.3	47.4	43.4	50.3
PT. GRENVILLE, WASH.													
1952	-	-	42.7	47.4	50.7	52.8	55.8	57.0	57.1	53.1	45.6	43.7	-
1953	44.9	42.3	42.5	45.3	51.4	54.0	57.0	58.2	57.6	53.2	49.1	46.1	50.1
1954	39.1	44.4	41.8	45.2	51.6	54.1	55.2	57.0	58.1	52.3	50.8	43.9	49.5
1955	42.8	41.7	41.0	43.3	48.8	52.4	56.7	55.1	55.0	50.6	41.3	-	-
1956	40.3	38.1	40.8	46.0	51.4	54.0	56.1	55.3	54.4	50.0	44.5	41.7	47.7
1957	36.5	40.1	45.1	48.3	52.7	56.3	57.4	58.1	60.4	52.1	45.6	44.7	49.8
1958	46.1	48.8	44.1	47.5	53.5	58.9	58.5	57.0	55.4	51.9	45.3	47.0	51.2
1959	42.5	43.2	44.0	47.4	51.1	56.5	57.3	55.5	55.1	52.6	45.9	42.3	49.5
1960	41.3	42.6	42.6	47.0	49.6	52.0	54.1	56.8	53.7	51.2	45.5	42.9	48.2
1961	45.5	44.8	42.2	44.2	48.2	51.9	58.3	55.8	54.5	47.2	40.9	38.9	47.7
1962	40.1	42.7	42.4	47.3	49.3	51.5	53.8	57.2	54.3	52.5	47.8	44.2	48.6

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
NORTH HEAD, WASH.													
1933	13.14	4.95	10.48	1.47	5.27	2.08	.81	.65	6.58	5.43	4.50	21.85	77.21
1934	9.52	2.14	6.22	2.03	4.37	.70	.81	1.02	2.24	7.76	10.18	8.94	55.93
1935	12.50	4.86	9.82	1.85	1.06	1.53	.46	.85	2.72	3.49	3.33	5.97	48.44
1936	10.46	7.85	4.59	.85	4.42	4.28	1.38	.83	1.04	.95	1.12	9.22	46.99
1937	4.19	8.02	3.71	7.16	1.58	3.13	.14	2.02	2.20	2.89	12.53	9.64	57.21
1938	5.28	6.09	5.51	5.37	1.98	.31	.44	.64	3.12	6.65	6.51	6.55	48.45
1939	10.05	10.47	4.73	1.14	1.84	2.18	1.13	.47	.68	4.21	3.73	12.75	53.38
1940	4.32	13.24	8.73	4.09	1.55	.35	1.73	1.87	2.90	10.18	7.12	8.18	64.26
1941	7.61	3.56	2.07	1.81	3.90	2.39	.25	3.42	5.77	3.54	6.75	10.41	51.48
1942	8.07	5.62	4.76	3.76	2.74	3.26	1.40	.85	.52	4.93	12.29	8.83	58.03
1943	5.01	5.89	5.48	3.19	2.97	1.61	1.11	3.06	.48	8.52	4.07	7.04	48.43
1944	6.24	4.11	3.88	4.26	1.96	.86	.47	1.13	2.70	3.89	10.82	4.77	45.09
1945	7.72	8.02	7.86	3.32	4.62	.55	.51	.34	4.93	2.35	9.59	9.20	59.01
1946	7.98	11.98	6.34	4.97	1.56	4.54	3.12	.40	2.03	7.76	9.10	6.87	66.65
1947	7.97	3.73	5.39	3.62	.63	3.88	3.37	1.95	1.84	11.00	6.49	8.65	58.52
1948	5.21	9.22	5.35	4.63	6.59	.77	.74	2.72	4.90	4.55	9.06	12.46	66.20
1949	1.63	10.31	5.29	2.26	1.67	1.35	.81	1.08	1.77	5.52	9.90	9.19	50.78
1950	10.22	11.86	11.07	4.87	1.28	.90	1.39	1.75	2.65	10.66	9.98	13.25	79.88
1951	10.88	9.65	6.18	1.23	1.81	.32	.37	.20	4.11	8.13	8.46	6.09	57.43
1952	14.52	5.89	7.32	2.79	1.67	1.78	.39	1.44	.90	1.73	3.22	10.40	52.05
LONG BEACH, WASH.													
1953	-	-	-	-	-	3.72	.59	2.60	3.86	5.59	14.61	12.54	-
1954	19.09	11.41	4.58	5.68	2.12	5.53	3.26	2.50	4.27	4.51	12.81	12.51	88.27
1955	6.61	6.40	7.85	8.25	2.54	2.52	4.45	.21	3.38	14.03	12.90	17.41	86.55
1956	17.18	10.63	13.56	1.33	2.69	5.14	1.01	2.51	3.50	13.49	5.04	11.28	87.36
1957	5.46	7.48	12.44	7.75	3.57	2.44	1.51	3.87	.88	7.46	6.62	12.92	72.40
1958	12.10	12.29	5.71	9.36	1.54	3.58	.04	2.22	2.87	6.38	13.82	12.02	81.93
1959	15.21	9.94	8.87	5.72	2.96	4.17	1.19	1.35	6.73	6.39	9.86	10.78	83.17
1960	11.92	9.57	7.06	5.73	7.71	1.39	.08	2.83	2.15	7.99	13.39	7.68	77.50
1961	13.60	22.11	13.94	7.02	3.51	1.16	1.38	1.08	1.65	7.38	10.40	11.55	94.78
1962	7.25	5.02	5.91	6.54	4.15	2.53	.65	3.18	4.02	7.30	15.71	8.73	70.99
GRAYLAND, WASH.													
1953	-	-	-	-	-	3.03	.69	2.95	2.81	5.66	11.92	14.32	-
1954	16.97	10.93	4.39	5.25	1.53	3.71	1.91	4.76	2.62	4.50	13.19	10.36	80.12
1955	6.04	5.61	7.60	8.36	2.40	2.23	5.20	.18	2.26	12.45	11.72	14.59	78.64
1956	13.84	9.67	12.35	1.20	1.52	4.49	1.48	1.78	4.09	15.07	3.72	10.70	79.91
1957	6.66	7.40	9.57	3.88	2.66	3.06	1.57	1.88	1.09	5.67	6.66	12.78	62.88
1958	14.12	9.63	5.69	7.32	1.87	2.04	.21	1.58	4.13	7.28	12.69	9.80	76.36
1959	12.19	9.19	10.33	5.84	3.32	3.33	1.52	1.44	7.84	4.53	11.80	10.88	82.21
1960	10.48	9.32	7.10	7.02	7.80	1.18	.12	2.01	2.44	6.83	12.22	7.60	74.12
1961	12.18	19.30	11.85	5.57	2.77	1.24	.47	1.01	1.81	7.09	10.04	10.18	83.51
1962	7.42	3.79	5.98	5.73	3.64	2.27	.59	3.83	3.41	6.96	14.21	9.52	67.35
HOQUIAM, WASH.													
1953	28.20	6.08	7.19	5.21	4.51	2.21	.35	2.31	2.26	6.03	10.03	13.63	88.01
1954	14.55	9.96	4.44	4.63	1.07	2.99	1.83	3.47	3.58	5.16	14.52	9.80	76.00
1955	6.51	5.67	9.74	8.50	1.92	1.97	4.18	.07	2.34	14.29	15.33	16.46	86.98
1956	15.00	8.65	14.92	.78	1.64	5.25	1.32	1.67	6.52	14.68	4.19	13.24	87.86
1957	5.66	8.36	11.22	4.68	1.86	2.54	2.10	2.20	1.14	4.31	7.22	13.16	64.45
1958	13.11	10.28	4.62	7.65	1.92	2.40	.04	1.47	3.68	8.44	14.84	11.29	79.74
1959	11.65	6.87	9.83	7.07	3.74	3.40	1.35	1.17	8.70	5.23	10.65	9.54	79.20
1960	10.81	8.37	6.81	6.10	7.77	.99	T	2.07	2.06	6.23	11.97	7.13	70.31
1961	11.69	19.04	9.70	4.58	2.91	.73	.95	1.23	.97	6.06	9.82	8.88	76.56
1962	5.83	3.14	6.22	5.05	2.71	2.54	.49	2.26	3.71	7.33	14.77	8.67	60.01
PT. GRENVILLE, WASH.													
1951	11.01	11.95	5.38	1.50	2.12	.30	.62	.30	5.09	10.80	12.37	10.22	71.66
1952	13.88	6.18	7.42	3.13	2.72	3.16	1.11	2.54	1.12	2.45	7.03	14.37	65.11
1953	25.53	7.28	10.44	5.42	4.36	2.80	1.39	3.08	2.90	8.92	15.24	18.76	106.12
1954	16.33	11.43	5.33	6.11	2.12	5.30	2.30	2.38	3.80	6.92	20.21	11.65	93.88
1955	7.33	6.78	7.89	9.29	2.64	2.43	7.42	.53	2.76	16.00	15.20	13.83	92.10
1956	13.84	9.16	13.15	1.33	2.19	6.08	1.45	1.08	4.44	13.82	5.95	15.87	88.36
1957	5.64	10.60	11.70	5.12	2.68	3.73	3.29	2.04	1.68	5.38	7.73	15.79	75.38
1958	18.24	11.41	6.73	7.78	1.67	2.20	.10	2.25	6.42	6.80	15.39	12.66	91.65
1959	12.89	9.39	10.90	9.11	2.55	3.92	1.78	1.10	6.67	4.57	16.75	12.55	92.18
1960	12.31	8.68	5.87	8.96	8.29	1.21	.07	4.69	2.27	7.97	15.71	9.50	85.53
1961	18.71	29.68	13.45	8.77	5.11	2.18	.60	2.03	2.95	8.19	12.09	11.39	115.15
1962	7.73	4.11	7.13	6.07	4.29	3.44	.70	5.09	4.14	7.23	18.14	13.54	81.25

SUNRISE AND SUNSET AT TATOOSH ISLAND, WASHINGTON
PACIFIC STANDARD TIME

DAY	JAN. Rise A.M.	JAN. Set P.M.	FEB. Rise A.M.	FEB. Set P.M.	MAR. Rise A.M.	MAR. Set P.M.	APR. Rise A.M.	APR. Set P.M.	MAY Rise A.M.	MAY Set P.M.	JUNE Rise A.M.	JUNE Set P.M.	JULY Rise A.M.	JULY Set P.M.	AUG. Rise A.M.	AUG. Set P.M.	SEPT. Rise A.M.	SEPT. Set P.M.	OCT. Rise A.M.	OCT. Set P.M.	NOV. Rise A.M.	NOV. Set P.M.	DEC. Rise A.M.	DEC. Set P.M.
1	8 11	4 35	7 48	5 18	7 01	6 03	5 57	6 49	5 00	7 33	4 22	8 12	4 21	8 24	4 53	7 56	5 36	7 01	6 18	5 58	7 04	5 00	7 49	4 27
2	8 10	4 36	7 47	5 19	6 59	6 04	5 55	6 51	4 58	7 34	4 21	8 13	4 22	8 23	4 55	7 55	5 37	6 59	6 19	5 56	7 06	4 58	7 50	4 26
3	8 10	4 37	7 45	5 21	6 57	6 06	5 53	6 52	4 57	7 36	4 21	8 14	4 23	8 23	4 56	7 53	5 39	6 57	6 21	5 54	7 08	4 57	7 51	4 26
4	8 10	4 38	7 44	5 23	6 55	6 07	5 51	6 54	4 55	7 37	4 20	8 15	4 23	8 23	4 57	7 52	5 40	6 55	6 22	5 52	7 09	4 55	7 53	4 25
5	8 10	4 39	7 42	5 24	6 53	6 09	5 49	6 55	4 54	7 38	4 20	8 15	4 24	8 22	4 59	7 50	5 41	6 53	6 24	5 50	7 11	4 54	7 54	4 25
6	8 10	4 40	7 41	5 26	6 51	6 10	5 47	6 56	4 52	7 40	4 19	8 16	4 25	8 22	5 00	7 49	5 43	6 51	6 25	5 48	7 12	4 52	7 55	4 25
7	8 10	4 41	7 39	5 27	6 49	6 12	5 45	6 58	4 50	7 41	4 19	8 17	4 26	8 21	5 01	7 47	5 44	6 49	6 27	5 46	7 14	4 51	7 56	4 25
8	8 09	4 43	7 38	5 29	6 47	6 13	5 43	6 59	4 49	7 43	4 18	8 18	4 27	8 21	5 03	7 45	5 46	6 47	6 28	5 44	7 15	4 49	7 57	4 24
9	8 09	4 44	7 36	5 31	6 45	6 15	5 41	7 01	4 47	7 44	4 18	8 18	4 27	8 20	5 04	7 44	5 47	6 45	6 29	5 42	7 17	4 48	7 58	4 24
10	8 08	4 45	7 35	5 32	6 43	6 16	5 39	7 02	4 46	7 45	4 18	8 19	4 28	8 20	5 05	7 42	5 48	6 42	6 31	5 40	7 19	4 47	7 59	4 24
11	8 08	4 46	7 33	5 34	6 41	6 18	5 37	7 04	4 45	7 47	4 17	8 20	4 29	8 19	5 07	7 40	5 50	6 40	6 32	5 38	7 20	4 45	8 00	4 24
12	8 07	4 48	7 32	5 36	6 39	6 20	5 35	7 05	4 43	7 48	4 17	8 20	4 30	8 18	5 08	7 39	5 51	6 38	6 34	5 36	7 22	4 44	8 01	4 24
13	8 07	4 49	7 30	5 37	6 37	6 21	5 33	7 07	4 42	7 49	4 17	8 21	4 31	8 17	5 10	7 37	5 53	6 36	6 35	5 34	7 23	4 43	8 02	4 24
14	8 06	4 50	7 28	5 39	6 35	6 23	5 31	7 08	4 40	7 51	4 17	8 21	4 32	8 17	5 11	7 35	5 54	6 34	6 37	5 32	7 25	4 42	8 03	4 24
15	8 06	4 52	7 27	5 40	6 33	6 24	5 29	7 10	4 39	7 52	4 17	8 22	4 33	8 16	5 12	7 33	5 55	6 32	6 38	5 30	7 26	4 40	8 04	4 24
16	8 05	4 53	7 25	5 42	6 31	6 26	5 27	7 11	4 38	7 53	4 17	8 22	4 34	8 15	5 14	7 32	5 57	6 30	6 40	5 28	7 28	4 39	8 04	4 25
17	8 04	4 55	7 23	5 44	6 29	6 27	5 25	7 12	4 37	7 55	4 17	8 23	4 35	8 14	5 15	7 30	5 58	6 28	6 41	5 26	7 29	4 38	8 05	4 25
18	8 03	4 56	7 21	5 45	6 27	6 28	5 24	7 14	4 35	7 56	4 17	8 23	4 36	8 13	5 16	7 28	6 00	6 26	6 43	5 25	7 31	4 37	8 06	4 25
19	8 02	4 57	7 20	5 47	6 24	6 30	5 22	7 15	4 34	7 57	4 17	8 23	4 37	8 12	5 18	7 26	6 01	6 24	6 44	5 23	7 32	4 36	8 06	4 26
20	8 02	4 59	7 18	5 48	6 22	6 31	5 20	7 17	4 33	7 58	4 17	8 24	4 39	8 11	5 19	7 24	6 02	6 21	6 46	5 21	7 34	4 35	8 07	4 26
21	8 01	5 00	7 16	5 50	6 20	6 33	5 18	7 18	4 32	8 00	4 17	8 24	4 40	8 10	5 21	7 22	6 04	6 19	6 47	5 19	7 35	4 34	8 08	4 27
22	8 00	5 02	7 14	5 52	6 18	6 34	5 16	7 20	4 31	8 01	4 18	8 24	4 41	8 09	5 22	7 21	6 05	6 17	6 49	5 17	7 37	4 33	8 08	4 27
23	7 59	5 04	7 12	5 53	6 16	6 36	5 14	7 21	4 30	8 02	4 18	8 24	4 42	8 08	5 23	7 19	6 07	6 15	6 50	5 15	7 38	4 32	8 09	4 28
24	7 58	5 05	7 10	5 55	6 14	6 37	5 12	7 23	4 29	8 03	4 18	8 24	4 43	8 07	5 25	7 17	6 08	6 13	6 52	5 14	7 40	4 31	8 09	4 28
25	7 57	5 07	7 08	5 56	6 12	6 39	5 11	7 24	4 28	8 04	4 18	8 24	4 44	8 05	5 26	7 15	6 09	6 11	6 54	5 12	7 41	4 31	8 09	4 29
26	7 55	5 08	7 07	5 58	6 10	6 40	5 09	7 26	4 27	8 06	4 19	8 24	4 46	8 04	5 28	7 13	6 11	6 09	6 55	5 10	7 42	4 30	8 10	4 30
27	7 54	5 10	7 05	6 00	6 08	6 42	5 07	7 27	4 26	8 07	4 19	8 24	4 47	8 03	5 29	7 11	6 12	6 07	6 57	5 08	7 44	4 29	8 10	4 30
28	7 53	5 11	7 03	6 01	6 06	6 43	5 05	7 28	4 25	8 08	4 20	8 24	4 48	8 02	5 30	7 09	6 14	6 05	6 58	5 07	7 45	4 28	8 10	4 31
29	7 52	5 13	7 02	6 02	6 04	6 45	5 04	7 30	4 24	8 09	4 20	8 24	4 49	8 00	5 32	7 07	6 15	6 03	7 00	5 05	7 46	4 28	8 10	4 32
30	7 51	5 15			6 02	6 46	5 02	7 31	4 23	8 10	4 21	8 24	4 51	7 59	5 33	7 05	6 16	6 01	7 01	5 03	7 48	4 27	8 10	4 33
31	7 49	5 16			6 00	6 48			4 23	8 11			4 52	7 58	5 35	7 03			7 03	5 02			8 11	4 34

Add one hour for Daylight Saving Time if and when in use.

SUNRISE AND SUNSET AT ASTORIA, OREGON
PACIFIC STANDARD TIME

DAY	JAN. Rise A.M.	JAN. Set P.M.	FEB. Rise A.M.	FEB. Set P.M.	MAR. Rise A.M.	MAR. Set P.M.	APR. Rise A.M.	APR. Set P.M.	MAY Rise A.M.	MAY Set P.M.	JUNE Rise A.M.	JUNE Set P.M.	JULY Rise A.M.	JULY Set P.M.	AUG. Rise A.M.	AUG. Set P.M.	SEPT. Rise A.M.	SEPT. Set P.M.	OCT. Rise A.M.	OCT. Set P.M.	NOV. Rise A.M.	NOV. Set P.M.	DEC. Rise A.M.	DEC. Set P.M.
1	7 58	4 40	7 39	5 20	6 55	6 02	5 56	6 44	5 02	7 24	4 28	7 59	4 28	8 11	4 57	7 46	5 36	6 55	6 14	5 56	6 56	5 02	7 37	4 32
2	7 58	4 41	7 37	5 22	6 53	6 03	5 54	6 45	5 01	7 25	4 27	8 00	4 28	8 10	4 58	7 44	5 37	6 53	6 15	5 54	6 58	5 00	7 38	4 31
3	7 58	4 42	7 36	5 23	6 51	6 04	5 52	6 47	4 59	7 26	4 27	8 01	4 29	8 10	4 59	7 43	5 38	6 51	6 16	5 52	6 59	4 59	7 40	4 31
4	7 58	4 43	7 35	5 25	6 50	6 06	5 50	6 48	4 58	7 27	4 26	8 02	4 30	8 10	5 01	7 42	5 39	6 49	6 18	5 50	7 00	4 57	7 41	4 31
5	7 58	4 44	7 33	5 26	6 48	6 07	5 48	6 49	4 56	7 29	4 26	8 03	4 30	8 09	5 02	7 40	5 41	6 47	6 19	5 48	7 02	4 56	7 42	4 30
6	7 58	4 45	7 32	5 28	6 46	6 09	5 46	6 51	4 55	7 30	4 25	8 03	4 31	8 09	5 03	7 39	5 42	6 45	6 20	5 46	7 03	4 55	7 43	4 30
7	7 58	4 46	7 31	5 29	6 44	6 10	5 44	6 52	4 54	7 31	4 25	8 04	4 32	8 09	5 04	7 37	5 43	6 43	6 21	5 45	7 05	4 53	7 44	4 30
8	7 57	4 48	7 29	5 31	6 42	6 11	5 42	6 53	4 52	7 33	4 25	8 05	4 32	8 08	5 06	7 36	5 44	6 41	6 23	5 43	7 06	4 52	7 45	4 30
9	7 57	4 49	7 28	5 32	6 40	6 13	5 41	6 55	4 51	7 34	4 24	8 05	4 33	8 08	5 07	7 34	5 46	6 39	6 24	5 41	7 08	4 51	7 46	4 30
10	7 57	4 50	7 26	5 34	6 38	6 14	5 39	6 56	4 49	7 35	4 24	8 06	4 34	8 07	5 08	7 33	5 47	6 37	6 25	5 39	7 09	4 49	7 47	4 30
11	7 56	4 51	7 25	5 35	6 36	6 16	5 37	6 57	4 48	7 36	4 24	8 07	4 35	8 06	5 09	7 31	5 48	6 35	6 27	5 37	7 10	4 48	7 48	4 30
12	7 56	4 52	7 24	5 37	6 35	6 17	5 35	6 59	4 47	7 38	4 24	8 07	4 36	8 06	5 10	7 30	5 49	6 33	6 28	5 35	7 12	4 47	7 49	4 30
13	7 55	4 54	7 22	5 38	6 33	6 18	5 33	7 00	4 46	7 39	4 23	8 08	4 37	8 05	5 12	7 28	5 51	6 31	6 30	5 33	7 13	4 46	7 50	4 30
14	7 55	4 55	7 20	5 40	6 31	6 20	5 31	7 01	4 44	7 40	4 23	8 08	4 38	8 04	5 13	7 26	5 52	6 29	6 31	5 32	7 15	4 45	7 50	4 30
15	7 54	4 56	7 19	5 41	6 29	6 21	5 30	7 02	4 43	7 41	4 23	8 09	4 39	8 04	5 14	7 25	5 53	6 27	6 32	5 30	7 16	4 44	7 51	4 30
16	7 54	4 58	7 17	5 43	6 27	6 22	5 28	7 04	4 42	7 42	4 23	8 09	4 39	8 03	5 15	7 23	5 54	6 25	6 34	5 28	7 18	4 43	7 52	4 30
17	7 53	4 59	7 16	5 44	6 25	6 24	5 26	7 05	4 41	7 44	4 23	8 09	4 40	8 02	5 17	7 21	5 56	6 23	6 35	5 26	7 19	4 42	7 53	4 31
18	7 52	5 00	7 14	5 46	6 23	6 25	5 24	7 06	4 40	7 45	4 23	8 10	4 41	8 01	5 18	7 20	5 57	6 21	6 36	5 24	7 20	4 41	7 53	4 31
19	7 52	5 02	7 12	5 47	6 21	6 26	5 22	7 08	4 39	7 46	4 24	8 10	4 42	8 00	5 19	7 18	5 58	6 20	6 38	5 23	7 22	4 40	7 54	4 31
20	7 51	5 03	7 11	5 49	6 19	6 28	5 21	7 09	4 38	7 47	4 24	8 10	4 44	7 59	5 21	7 16	6 00	6 18	6 39	5 21	7 23	4 39	7 55	4 32
21	7 50	5 04	7 09	5 50	6 17	6 29	5 19	7 10	4 37	7 48	4 24	8 11	4 45	7 58	5 22	7 15	6 01	6 16	6 41	5 19	7 25	4 38	7 55	4 32
22	7 49	5 06	7 07	5 52	6 15	6 31	5 17	7 12	4 36	7 49	4 24	8 11	4 46	7 57	5 23	7 13	6 02	6 14	6 42	5 17	7 26	4 37	7 56	4 33
23	7 48	5 07	7 06	5 53	6 13	6 32	5 15	7 13	4 35	7 50	4 24	8 11	4 47	7 56	5 24	7 11	6 03	6 12	6 43	5 16	7 27	4 36	7 56	4 33
24	7 47	5 09	7 04	5 54	6 11	6 33	5 14	7 14	4 34	7 51	4 25	8 11	4 48	7 55	5 26	7 09	6 05	6 10	6 45	5 14	7 29	4 36	7 56	4 34
25	7 46	5 10	7 02	5 56	6 09	6 35	5 12	7 16	4 33	7 52	4 25	8 11	4 49	7 54	5 27	7 07	6 06	6 08	6 46	5 12	7 30	4 35	7 57	4 35
26	7 45	5 12	7 00	5 57	6 07	6 36	5 10	7 17	4 32	7 53	4 25	8 11	4 50	7 53	5 28	7 06	6 07	6 06	6 48	5 11	7 31	4 34	7 57	4 35
27	7 44	5 13	6 59	5 59	6 06	6 37	5 09	7 18	4 31	7 54	4 26	8 11	4 51	7 52	5 29	7 04	6 08	6 04	6 49	5 09	7 32	4 34	7 57	4 36
28	7 43	5 14	6 57	6 00	6 04	6 39	5 07	7 20	4 30	7 55	4 26	8 11	4 52	7 51	5 31	7 02	6 10	6 02	6 50	5 08	7 34	4 33	7 58	4 37
29	7 42	5 16	6 56	6 01	6 02	6 40	5 06	7 21	4 30	7 56	4 27	8 11	4 54	7 50	5 32	7 00	6 11	6 00	6 52	5 06	7 35	4 33	7 58	4 37
30	7 41	5 17			6 00	6 41	5 04	7 22	4 29	7 57	4 27	8 11	4 55	7 48	5 33	6 58	6 12	5 58	6 53	5 05	7 36	4 32	7 58	4 38
31	7 40	5 19			5 58	6 43			4 28	7 58			4 56	7 47	5 34	6 56			6 55	5 03			7 58	4 39