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

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JUL 1 2 1965
WEATHER BUREAU

LATITUDE 46° 51'
LONGITUDE 123° 13'
ELEV. (GROUND) 130 ft.

CLIMATOLOGICAL SUMMARY

STATION OAKVILLE, WASH.

MEANS AND EXTREMES FOR PERIOD 1931-1960

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. 90° and above	Max. 32° and below	Min. 32° and below	Min. 0° and below	Month
(a)	30	30	30	30		30		30	30	30		26	26		26		30	30	30	30	30	
JAN	44.8	32.0	38.4	66	1935	0	1943	825	8.49	3.48	1935	3.9	19.5	1943	17.0	1950	14	0	2	15	*	JAN
FEB	48.9	33.1	41.0	72	1938	4	1950	672	6.56	3.35	1951	1.5	18.0	1949	6.0	1949	13	0	*	12	0	FEB
MAR	53.1	35.0	44.1	77	1934	13	1955	648	5.70	2.52	1935	1.0	17.9	1951	6.5	1960	13	0	0	11	0	MAR
APR	60.9	38.1	49.5	89	1934	22	1951	465	3.34	2.07	1940						9	0	0	6	0	APR
MAY	67.2	42.2	54.7	97	1956	22	1954	319	2.28	1.47	1941						7	*	0	1	0	MAY
JUN	71.9	46.3	59.1	98	1955+	32	1933	177	1.86	2.00	1958						5	1	0	*	0	JUN
JUL	77.5	49.8	63.7	105	1941	35	1955+	71	.65	.71	1955						2	3	0	0	0	JUL
AUG	76.8	50.1	63.5	102	1933	34	1945	68	1.10	1.38	1958						3	3	0	0	0	AUG
SEP	72.8	46.4	59.6	97	1944+	29	1957+	168	2.25	1.78	1941						5	1	0	1	0	SEP
OCT	62.2	42.2	52.2	86	1952	20	1935	397	5.46	3.82	1942						11	0	0	3	0	OCT
NOV	51.4	36.5	44.0	74	1934	3	1955	630	7.42	2.72	1959	.4	4.5	1946	4.5	1946	13	0	*	9	0	NOV
DEC	46.5	35.0	40.8	66	1939	11	1944	750	9.44	4.21	1933	.9	9.0	1955	9.0	1955	16	0	*	11	0	DEC
Year	61.2	40.6	50.9	105	1941	0	1943	5190	54.55	4.21	1933	7.7	19.5	1943	17.0	1950	111	8	2	69	*	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.

NARRATIVE CLIMATOLOGICAL SUMMARY

Oakville, located in southeastern Grays Harbor County, is in the Chehalis River valley. The City is 40 miles inland from the Ocean and 20 miles southwest of the southern tip of Puget Sound. Within five to ten miles in a northerly and southwesterly direction, the Willapa Hills rise from 1,000 to 2,500 feet above sea level. Most of this area has been logged off and a new growth of timber is beginning to cover the hills. Valley lands suitable for agricultural pursuits are devoted to dairying, raising livestock and grazing.

The climate is predominantly a marine-type with cool summers and mild but rainy winters. Terrain, prevailing westerly winds and the distance and direction from the Ocean have an influence on the climate. Although the Willapa Hills are comparatively low, they are effective in protecting this area from the more intense winter storms from over the Ocean. In an easterly direction and within 70 miles, the Cascade Mountains reach elevations of 5,000 to 8,000 feet with peaks in excess of 10,000 feet. This range forms a north-south topographic and climatic barrier across the State shielding this section from higher summer and lower winter temperatures observed in eastern Washington.

During the late spring and summer, a clockwise circulation of air around the large high pressure center over the north Pacific brings a prevailing westerly and northwesterly flow of air into western Washington. This air is comparatively dry and cooler than the surface of the land. As the air moves inland, it becomes warmer and drier resulting in a dry season beginning in late spring and reaching a peak in midsummer. During July and August, it is not unusual for two to four weeks to pass with only a few showers. Total precipitation for July is less than .10 of an inch in 1 summer out of 10; also, it exceeds 1.50 inches in 1 summer out of 10.

Afternoon temperatures throughout the warmest summer months are in the upper 70's and nighttime readings are in the 50's. Maximum temperatures exceed 90° on 10 to 14 days in the warmer summers and on only 1 to 3 days in the cooler summers. The warmest weather occurs when hot dry easterly winds from the interior of the continent reach this area. Unusually warm weather seldom continues more than three to six days before cooler moist air from over the Ocean moves inland.

Frequently in the latter half of the summer and fall, valleys are filled with fog or low clouds during the night and early morning hours, clearing by noon.

In the fall and winter, the low pressure center in the Gulf of Alaska intensifies and the high pressure center over the north Pacific becomes smaller and moves southward. A circulation of air around these two regions over the Ocean brings a prevailing flow of air from a southwesterly or westerly direction into Washington. This air is moist and near the temperature of the water. As the air moves inland over the cooler land and rises along the windward slopes of the foothills and mountains, cooling and condensation occur. This results in a wet season beginning in October, reaching a peak in December, then gradually decreasing in the spring. Total rainfall for December, the wettest month, is less than 5 inches in 1 winter out of 10; also, it is more than 12 inches in 1 out of 10 winters. Annual precipitation has ranged from 34 inches to 73 inches. The greatest monthly rainfall, 27.89 inches, was recorded in December 1933.

Snowfall is quite variable and snow seldom remains on the ground more than a few days or reaches depths in excess of 6 to 10 inches. During two of the heaviest snowfall winters, a maximum depth of 18 inches was recorded in February 1923 and 27 inches in January 1950. Snowfall increases in the Willapa Hills.

Afternoon temperatures during the coldest months are in the 40's and minimum temperatures near freezing. In a few of the colder winters, minimum temperatures have dropped below freezing on 80 to 90 nights and maximum temperatures have failed to rise above freezing on 8 to 10 days. During January, minimum temperatures drop to 15° above zero or lower on 4 nights in 2 winters out of 10. Coldest weather is generally associated with an outbreak of cold air from Canada or east of the Cascade Mountains. Outbreaks of cold air seldom continue more than a few days before warmer air from over the Ocean moves inland. Snow falls frequently as the colder air moves in and again as warmer moist air returns.

The number of clear or only partly cloudy days each month increases from approximately 6 in winter to 12 in spring and fall and 18 to 20 in summer.

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

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	45.8	42.5	46.9	50.8	57.7	61.6	64.6	63.3	59.3	50.8	40.4	39.2	51.9
1932	38.2	39.6	45.8	49.7	53.6	60.6	60.0	62.6	59.2	-	-	-	-
1933	37.0	36.4	43.8	48.4	51.2	57.0	62.6	66.2	56.4	51.8	45.2	43.6	50.0
1934	44.1	46.6	50.0	55.1	57.2	59.8	62.4	65.6	59.0	53.2	48.2	41.4	53.6
1935	38.6	43.1	41.7	48.3	54.0	59.0	62.4	62.9	61.0	50.6	40.4	39.6	50.1
1936	-	-	-	-	-	-	-	-	-	54.2	42.2	42.2	-
1937	29.2	39.4	46.9	47.1	55.0	60.8	64.4	62.2	60.4	54.9	47.0	41.6	50.7
1938	40.0	42.2	44.2	51.0	55.7	61.6	67.0	63.2	64.1	52.9	42.2	40.7	52.1
1939	42.2	39.0	45.7	51.6	55.4	58.4	64.3	66.0	60.7	53.2	47.0	44.6	52.4
1940	41.2	43.9	48.2	52.0	58.4	63.2	64.8	66.0	62.6	55.0	41.4	41.8	53.2
1941	41.4	44.5	50.6	52.8	55.2	59.8	69.0	64.8	57.9	53.2	46.6	41.2	53.1
1942	37.6	41.2	44.6	51.1	53.3	57.6	65.5	67.2	60.9	53.5	42.6	42.1	51.4
1943	33.4	42.9	42.8	51.9	52.2	58.8	63.4	62.6	62.2	52.6	44.6	38.4	50.5
1944	39.8	41.0	43.0	48.4	53.0	58.2	64.2	63.1	62.9	54.8	43.6	36.6	50.7
1945	40.8	42.8	41.8	46.6	55.3	56.9	63.8	62.8	57.3	51.2	42.2	40.9	50.2
1946	40.0	42.0	44.0	48.2	55.9	57.2	62.5	63.4	58.6	49.3	41.2	40.6	50.2
1947	35.6	42.9	45.8	51.2	57.6	58.8	62.0	62.4	59.6	52.7	44.5	42.2	51.3
1948	39.4	38.6	42.4	45.6	52.8	63.0	61.4	61.2	58.5	50.0	42.5	37.2	49.4
1949	29.4	37.7	45.5	51.0	57.2	58.5	62.2	62.1	61.3	48.1	49.9	38.4	50.1
1950	27.1	39.6	43.0	46.5	51.8	-	62.6	64.3	56.4	48.1	42.5	44.9	-
1951	38.1	39.2	36.6	-	54.4	61.6	64.1	63.7	60.5	51.7	44.2	37.1	-
1952	36.5	41.1	43.0	48.8	53.9	57.3	63.8	63.6	60.8	55.1	41.1	41.2	50.5
1953	46.2	42.2	44.1	48.0	53.4	55.7	62.5	63.9	58.7	53.0	47.2	42.8	51.5
1954	36.6	42.7	40.6	46.0	53.4	-	59.4	61.0	58.4	50.1	48.4	40.1	-
1955	39.3	39.6	40.0	44.6	49.1	58.9	60.1	61.3	58.2	49.9	40.9	39.8	48.5
1956	39.6	36.0	42.4	50.8	57.6	56.3	66.6	63.3	57.9	50.9	41.5	40.6	50.3
1957	32.2	39.7	-	-	-	-	-	-	63.2	-	-	-	-
1958	41.7	47.6	43.8	49.1	59.8	63.0	68.5	66.2	58.8	53.9	43.6	45.2	53.4
1959	40.5	39.9	43.6	49.1	51.6	57.5	65.5	61.3	56.9	52.7	45.1	40.9	50.4
1960	38.4	42.1	43.9	49.1	51.3	57.9	65.5	62.2	57.1	53.0	42.9	39.1	50.2
1961	44.4	44.7	45.6	47.1	53.0	61.7	65.9	67.2	58.2	49.7	41.5	39.9	51.6
1962	38.9	43.3	42.9	50.2	50.9	57.5	62.1	61.7	58.8	52.6	46.9	43.2	50.8
1963	34.4	47.8	43.8	48.3	54.4	57.2	60.5	63.0	63.0	52.3	45.5	41.5	51.0

PROBABILITY OF 32°, 28° AND 24° OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS THE DATES LISTED IN THE FOLLOWING TABLE:

	PROBABILITY - SPRING				PROBABILITY - FALL			
	75%	50%	25%	10%	10%	25%	50%	75%
32°	Apr 25	May 9	May 22	Jun 3	Sep 17	Sep 28	Oct 10	Oct 22
28°	Mar 14	Mar 28	Apr 11	Apr 22	Oct 9	Oct 20	Nov 1	Nov 13
24°	Feb 6	Feb 25	Mar 12	Mar 25	Nov 3	Nov 15	Nov 29	Dec 21

In the above table, the 50% point is the same as the average for each freeze category.

From a statistical viewpoint based on past data, the probabilities could be considered as follows when converted into the number of occurrences to expect in a 40-year period:

75% - 30 years in 40
50% - 20 years in 40
25% - 10 years in 40
10% - 4 years in 40

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	8.97	5.19	8.99	3.33	1.05	2.77	.03	.25	5.30	6.41	7.10	9.41	58.80
1932	7.15	9.91	8.51	5.05	1.55	.39	1.12	1.76	.64	-	-	-	-
1933	10.72	4.75	7.72	.89	3.47	1.61	.32	.55	5.06	6.29	4.24	27.89	73.51
1934	10.80	2.28	5.42	1.71	2.87	1.01	.70	.42	2.14	9.38	13.02	10.47	60.22
1935	12.10	3.68	8.85	1.69	.58	.72	.36	1.32	2.56	5.67	2.92	6.12	46.57
1936	-	-	-	-	-	-	-	-	-	.94	.08	10.24	-
1937	4.50	8.98	3.18	8.65	1.07	5.38	T	2.28	1.43	3.98	14.70	13.66	67.81
1938	5.73	4.09	6.84	4.05	1.19	.15	.33	.47	.67	5.03	6.57	7.35	42.47
1939	7.80	8.34	4.47	.55	2.76	1.77	1.05	.80	.28	2.75	3.15	12.90	46.62
1940	3.72	13.32	6.77	5.65	2.26	.20	1.05	.31	3.03	7.00	5.11	4.80	53.22
1941	5.41	2.26	1.84	1.55	4.58	1.19	.07	3.92	5.18	2.96	5.31	10.13	44.40
1942	5.84	4.79	3.50	2.47	2.18	3.37	1.40	T	.07	6.22	12.08	7.75	49.67
1943	6.04	5.31	5.77	4.71	2.35	2.00	.63	1.29	.61	6.05	1.67	5.88	42.31
1944	4.06	4.18	2.87	4.66	3.01	.98	.04	.11	1.78	2.70	6.72	2.99	34.10
1945	7.38	7.71	6.43	2.73	4.52	.62	.21	.32	2.88	3.48	9.56	10.37	56.21
1946	9.23	8.66	4.25	4.07	.43	3.33	.51	.11	2.75	6.13	5.93	6.30	51.70
1947	10.00	5.19	4.33	3.32	.26	2.85	1.50	.54	1.56	9.35	5.18	6.69	50.77
1948	7.23	8.59	4.86	4.09	5.70	.80	1.23	2.21	3.66	4.01	10.49	-	-
1949	1.02	9.95	3.61	1.40	1.89	1.00	.47	1.12	1.30	5.25	10.15	-	-
1950	-	8.90	7.83	3.75	1.54	1.08	1.47	1.76	2.52	9.06	9.02	9.03	-
1951	11.39	9.86	7.63	.70	1.94	.41	.28	.50	3.41	8.32	8.03	6.10	58.57
1952	6.73	3.58	3.91	2.53	1.18	1.40	.09	.87	.36	2.35	1.59	9.91	34.50
1953	17.93	4.59	4.54	3.90	2.96	1.74	.10	1.67	2.75	5.17	8.12	11.17	64.64
1954	13.13	8.89	4.14	4.20	1.73	2.30	1.36	2.66	3.08	3.03	8.82	6.98	60.32
1955	4.88	5.17	6.06	5.57	1.79	1.35	2.35	.00	2.25	8.15	10.24	12.62	60.43
1956	12.35	5.01	10.07	.70	.87	3.92	.25	1.05	2.28	10.08	3.29	6.23	56.10
1957	3.46	6.26	-	-	-	-	-	-	-	-	-	-	-
1958	9.41	6.86	2.88	6.03	1.78	3.29	.00	1.53	2.27	5.68	11.20	8.73	59.66
1959	10.42	3.95	6.08	3.82	2.82	2.75	.36	.90	4.56	3.06	10.24	7.36	56.32
1960	5.63	6.74	5.47	4.68	4.39	1.00	.03	1.90	1.09	5.03	8.61	3.85	48.42
1961	9.23	11.95	8.88	3.59	2.54	.76	.64	.72	1.62	5.19	6.53	8.59	60.24
1962	3.46	3.15	4.90	5.09	2.00	1.70	.59	2.66	2.46	5.11	14.17	5.46	50.75
1963	3.08	5.67	4.84	4.80	1.93	1.71	1.96	2.70	2.41	6.01	9.61	4.23	48.95

STATION HISTORY

The first climatological station was established at Oakville in 1916. During the entire period of record, the station has been located in Section 30, Township 16N and Range 4W. Weather records have been kept by the following cooperative weather observers:

Observer	Date	Sta. Elev.	Distance and Direction from Post Office
C.N. Mills	4/1916-12/1932	85 ft.	
John L. Fournier	12/1932-3/1945	85 ft.	2 blocks W
C.D. Wieland	4/1935-8/1935	"	1 block S
P.C. Wieland	8/1935=11/1935	"	1 block S
Dexter Newton	12/1935-2/1942	"	3/4 mile NW
Ruth Newton	5/1942-7/1950	"	1/2 mile W
A.C. Miller	8/1950-2/1958	"	1/8 mile SE
A.C. Miller	2/1958-present	130 ft.	1/2 mile ENE