

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU  
 IN COOPERATION WITH THE WASHINGTON STATE DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT  
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 45

LATITUDE 47° 57'  
 LONGITUDE 124° 22'  
 ELEV. (GROUND) 350'

**CLIMATOLOGICAL SUMMARY**

STATION: FORKS, WASH.

MEANS AND EXTREMES FOR PERIOD 1930-1959

Month	Temperature (°F)								** # Mean degree days	Precipitation Totals (Inches)						Mean number of days					Month		
	Means				Extremes					Mean	Greatest daily	Year	Snow, Sleet			Precip. .10 inch or more	Temperatures						
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily		Year	90° and above	Max.			Min.	
																			32° and below	32° and below		0° and below	0° and below
(a)	30	30	30	30		30																	
JAN	44.1	32.5	38.3	67	1935	4	1950	818	17.24	7.75	1935	6.2	46.6	1954	9.6	1954	19	0	2	15	0	JAN	
FEB	47.3	33.4	40.4	67	1938	9	1950	692	14.47	5.80	1949	2.9	19.2	1949	6.0	1943	16	0	*	13	0	FEB	
MAR	50.4	31.7	42.6	74	1947	12	1955	698	12.52	5.50	1945	3.3	38.5	1951	9.0	1951	17	0	*	11	0	MAR	
APR	56.3	37.7	47.0	85	1934	24	1951+	546	8.22	5.10	1959	T	1.7	1948	1.5	1948	14	0	0	6	0	APR	
MAY	62.2	41.9	52.1	91	1947	25	1954	406	4.71	3.15	1941						10	*	0	1	0	MAY	
JUN	65.6	46.4	56.0	98	1942	33	1933	276	3.74	2.89	1956						8	*	0	0	0	JUN	
JUL	70.2	49.1	60.0	101	1942	35	1930	180	2.51	2.71	1934						5	1	0	0	0	JUL	
AUG	71.0	49.2	60.1	95	1952+	37	1947	155	2.16	2.32	1936						5	1	0	0	0	AUG	
SEP	68.2	46.9	57.6	96	1944	31	1950	225	5.26	2.77	1930						8	*	0	*	0	SEP	
OCT	60.2	42.5	51.4	87	1952	23	1935	419	11.54	4.75	1941						14	0	*	2	0	OCT	
NOV	51.1	37.1	44.1	69	1949	10	1955	624	14.85	8.85	1955	.5	7.0	1946	3.0	1955+	16	0	*	8	0	NOV	
DEC	46.3	35.0	40.7	64	1949	14	1932	725	19.22	5.83	1943	1.8	13.0	1934	5.3	1934	20	0	*	11	0	DEC	
Year	57.7	40.5	49.1	101	JUL 1942	4	JAN 1950	5764	11.644	6.85	NOV 1955	14.7	46.6	1954	9.6	JAN 1954	152	2	2	67	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.

# Estimated.

NARRATIVE CLIMATOLOGICAL SUMMARY

Forks is located about 10 miles inland from the Ocean, on a narrow coastal plain which lies between the Pacific Ocean and the Olympic Mountains in the northwestern section of the State. The Olympic Mountains begin rising a short distance east of the City and reach elevations of 3000 to 6000 feet within 15 or 20 miles. The higher peaks in these mountains are snow-capped from early fall until late spring and there are several glaciers on Mt. Olympus, elevation 7954 feet, the highest peak in the Olympic range. Most of this section of the Olympic Peninsula is covered with timber, other than a few small valleys which are devoted to agriculture.

The climate in this area of the State is a marine-type with cool summers, rather mild winters, moist air and a small daily range of temperature. Some of the factors which influence the climate are terrain, distance and direction from the Ocean and the position of the semi-permanent high and low pressure regions located over the north Pacific Ocean. The average temperature of the water in the Ocean along the coast ranges from about 45° in January to 55° in August. The high pressure area over the north Pacific spreads northward into the Gulf of Alaska during the summer. A clockwise circulation of air around this high pressure region brings a flow of air from a northwesterly direction into this area throughout most of the summer. This air from over the Ocean is cooler than the land surface and relatively dry, thus summer is the season with the least amount of precipitation. The driest part of the summer is usually from the middle of July until the middle of August. The average afternoon temperature in the hottest summer months ranges from 63° to 65° along the Ocean, gradually increasing to the lower or middle 70's a few miles inland. Afternoon temperatures in excess of 80° occur only a few times each summer. The wind is usually from the west or northwest and rather light in June, July and August. Fog banks develop off shore during the latter half of the summer and frequently move inland at night forming low clouds which usually disappear by noon. Records from Tatoosh Island, a few miles to the north, indicate that in the summer this area receives approximately 47% of the possible sunshine and one-half of the days are either clear or only partly cloudy.

The high pressure region over the north Pacific becomes smaller and moves southward in the fall and winter and the low pressure area, with its center near the Aleutian Islands, intensifies and also moves southward. A clockwise circulation of air around the high pressure center and a counter-clockwise circulation around the low brings a flow of warm and moist air from a southwesterly direction into the western part of the State. This air is warmer than the surface of the land, thus cooling and condensation occur as the air moves inland and rises along the western slope of the hills and mountains. The average annual precipitation increases from 75 to 85 inches along the coast to between 135 and 150 inches or possibly higher in the "Rain Forest" area along the western slope of the Olympic Mountains.

Rainfall amounts ranging from 3 to 5 inches in 24 hours are recorded a few times each winter and between 40 and 49 inches of precipitation have been recorded in a single winter month at weather reporting stations in this area of the State. The fall rains usually begin by the first of October and continue with only a few breaks until March or April. While the rainy weather prevails, there is very little variation in the temperature, daytime temperatures in the 40's and nighttime temperatures in the 30's throughout most of the winter. The coldest weather usually occurs when cold air from the interior of the continent moves into the area west of the Cascades and a high pressure area develops over the Pacific Northwest. This usually results in clear skies, northerly winds, afternoon temperatures between 20 and 30° and nighttime temperatures from 10 to 20°. The low temperatures seldom last for more than a few days. Snow frequently occurs at the beginning and end of these cold periods. Winds of gale force occur rather frequently from November through February as storms from over the Ocean move inland.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	30.4	42.1	45.9	49.2	54.0	55.2	56.2	61.8	56.6	50.6	43.5	41.2	48.5
1931	45.1	42.2	44.4	49.2	54.5	56.2	61.2	60.3	56.6	50.6	40.3	41.2	48.5
1932	37.0	38.0	44.0	44.0	50.0	57.4	56.9	57.2	57.2	52.0	46.2	36.7	47.0
1933	37.0	35.2	41.0	44.3	48.0	53.5	57.5	62.6	54.1	50.6	46.2	42.1	47.0
1934	37.0	45.6	48.4	45.3	53.7	57.3	57.3	61.6	56.3	52.6	40.8	40.8	51.2
1935	43.8	43.2	49.0	45.9	51.4	56.6	59.7	61.6	58.8	48.2	42.6	42.6	48.9
1936	41.1	41.4	42.2	49.0	54.2	57.8	59.2	61.8	56.2	54.5	41.6	41.6	48.7
1937	40.1	37.6	44.6	44.6	51.4	57.7	59.7	61.8	57.9	54.4	42.2	42.2	48.7
1938	40.6	40.5	42.8	47.6	52.1	56.2	58.1	61.2	57.9	51.2	40.1	40.1	48.8
1939	41.4	38.0	42.8	48.1	51.5	54.2	58.1	61.7	57.2	50.4	49.0	45.2	49.8
1940	42.4	43.5	46.1	49.7	54.6	58.2	59.5	62.2	60.0	53.9	42.4	42.4	51.2
1941	42.3	44.2	49.1	50.1	52.8	56.7	63.2	60.4	55.4	52.0	46.1	46.1	51.1
1942	40.0	40.8	42.1	48.1	52.4	56.0	63.8	63.4	58.0	53.4	42.0	40.2	50.0
1943	34.6	42.6	42.2	48.6	49.6	55.3	59.1	59.1	59.4	52.4	49.0	49.0	49.0
1944	41.0	40.8	42.2	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1945	41.8	42.8	41.1	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1946	40.1	42.8	41.1	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1947	40.1	42.8	41.1	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1948	38.4	42.8	41.1	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1949	38.4	42.8	41.1	46.8	51.6	52.2	60.5	60.1	59.4	52.4	42.0	40.4	49.0
1950	26.8	39.2	41.0	44.1	48.5	57.6	59.9	60.6	56.9	48.9	44.8	47.6	47.6
1951	37.9	40.4	40.5	48.5	51.7	57.7	60.5	57.9	57.9	50.2	43.9	41.6	48.6
1952	36.6	40.8	41.3	46.4	51.7	52.7	59.9	60.2	57.9	50.2	43.9	41.6	48.6
1953	43.4	40.8	42.1	46.1	51.7	52.7	59.9	60.2	57.9	50.2	43.9	41.6	48.6
1954	35.5	41.0	39.7	42.9	50.9	53.4	56.3	58.1	57.8	51.5	48.9	40.5	48.0
1955	38.8	38.0	40.4	42.0	47.5	54.8	56.2	57.2	56.0	50.9	40.2	37.4	46.0
1956	38.8	36.0	40.4	42.0	47.5	54.8	56.2	57.2	56.0	50.9	40.2	37.4	46.0
1957	34.5	38.9	43.0	48.2	54.0	56.6	57.9	58.8	57.5	49.1	43.8	42.3	48.8
1958	43.7	46.4	43.1	46.6	56.1	61.6	61.8	61.5	58.0	51.8	45.3	45.3	49.2
1959	39.9	40.2	42.5	47.1	51.1	55.8	58.2	55.4	50.7	44.1	40.5	48.9	48.9

STATION HISTORY

The first climatological station was established in Forks on November 1, 1907. There are several breaks in the records between 1908 and 1913. Continuous climatological records have been kept from 1913 to date. The station has been moved several times, however, it has remained within one mile of the Post Office. Weather records have been kept by the following cooperative observers since the station was established:

Date:	Observer:	Date:	Observer:
11/1/1907 - 5/31/1908	Montie South	10/1/1911 - 8/31/1932	Mrs. Ruth P. Johnson
6/1/1908 - 12/31/1909	F.L. South	9/1/1932 - 7/31/1932	Ray H. Palmer
1/1/1909 - 7/31/1910	E.L. Marston	8/1/1932 - 2/28/1937	Ernest S. Palmer
8/1/1910 - 7/31/1911	R.H. Palmer	9/8/1937 - 2/28/1934	Miss Clive Ford
9/1/1911 - 9/30/1911	Miss Ruth Palmer	3/1/1934 - to date	Mrs. O.V. Ford

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	8.30	23.03	6.51	9.92	5.09	3.73	.22	1.64	6.96	11.67	7.60	11.26	95.57
1931	23.55	16.21	13.17	2.76	2.76	9.92	.22	1.64	6.96	11.67	7.60	11.26	95.57
1932	16.40	28.18	16.53	13.05	1.95	2.67	8.05	2.11	2.33	10.81	19.64	21.62	138.53
1933	25.59	15.99	17.61	2.27	8.51	2.67	1.81	.80	12.33	12.78	6.30	22.28	110.94
1934	23.00	8.74	12.73	4.06	8.51	1.45	5.78	2.73	5.11	13.57	20.51	20.66	126.95
1935	10.89	12.31	17.84	5.12	.93	4.31	1.28	2.73	5.72	6.46	6.87	13.22	116.13
1936	18.20	9.42	7.02	3.28	6.78	7.16	4.75	3.26	3.10	3.80	2.91	19.49	94.06
1937	4.20	18.10	7.02	17.24	6.94	6.91	3.1	4.43	3.25	13.50	21.21	17.44	121.85
1938	9.12	10.51	15.78	6.59	3.30	2.90	3.44	1.02	4.07	11.59	11.54	20.24	97.98
1939	12.93	11.38	7.48	5.29	2.15	2.90	3.44	.94	3.93	9.76	11.79	28.05	117.00
1940	12.08	19.93	13.27	5.73	6.71	4.6	4.10	1.11	3.31	17.71	9.45	19.14	112.95
1941	13.88	10.28	3.31	4.37	13.40	3.86	.49	3.96	7.98	14.32	12.67	19.09	112.95
1942	15.52	7.55	3.63	8.21	2.97	1.05	3.76	.20	1.89	10.08	16.46	17.06	92.85
1943	7.42	10.44	13.43	11.33	4.97	2.47	2.45	3.45	2.68	11.44	5.47	11.24	88.12
1944	19.62	9.04	9.11	8.99	3.46	.97	.33	.74	7.71	8.40	20.06	8.43	95.52
1945	19.56	11.95	20.09	7.37	6.13	.92	3.03	.34	7.09	10.24	20.45	15.35	126.22
1946	16.46	11.13	17.63	13.27	.95	8.99	3.03	1.06	3.44	7.70	14.58	17.06	119.20
1947	12.92	11.88	5.44	9.08	2.62	6.78	5.36	.61	9.61	7.06	7.62	22.82	115.11
1948	19.78	12.77	10.18	11.29	11.82	1.75	2.52	3.54	9.61	7.59	26.87	19.58	137.38
1949	2.31	18.55	9.70	8.11	3.77	2.51	2.87	3.82	2.89	9.39	22.63	27.55	113.90
1950	12.94	23.95	17.52	14.01	3.96	1.49	2.33	5.19	2.08	19.62	11.81	22.28	139.08
1951	21.44	22.84	9.61	2.20	3.09	.31	.41	6.17	13.93	17.50	11.45	109.18	139.08
1952	18.02	9.44	11.66	5.27	3.09	4.67	.83	3.06	1.59	3.57	6.53	22.67	90.75
1953	41.70	11.61	13.28	5.10	7.82	2.86	2.18	3.63	7.59	12.98	18.32	22.77	152.33
1954	23.09	21.58	7.09	9.06	1.92	4.77	2.88	4.69	3.25	10.22	31.06	17.95	157.56
1955	9.48	7.93	11.66	13.69	3.55	4.01	.58	2.95	9.39	13.35	21.30	22.58	124.49
1956	18.15	13.49	22.43	11.54	1.40	8.33	1.89	1.18	2.99	18.65	6.22	22.21	97.93
1957	9.72	13.77	14.04	5.96	2.44	4.59	5.13	2.99	3.18	7.51	6.33	22.21	97.93
1958	21.76	16.83	9.43	1.43	1.83	1.56	.01	2.04	1.30	11.69	16.31	17.82	112.44
1959	17.13	8.87	12.92	12.86	4.38	4.39	1.46	1.64	10.56	8.21	13.42	14.54	112.88

PROBABILITY OF 32° AND 28° OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS THE DATES LISTED IN THE FOLLOWING TABLES

Date	PROBABILITY - SPRING					PROBABILITY - FALL				
	75%	50%	30%	10%	5%	10%	20%	50%	75%	
32° Apr 7										
28° Mar 5										
	Apr 22	Mar 19	Mar 31	Apr 17	May 20	Apr 17	May 20	Oct 7	Oct 18	
								Nov 1	Nov 26	
								Oct 15	Oct 31	
								Nov 1	Nov 26	

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 10-year period:

75% - 30 years in 10  
 50% - 20 years in 10  
 30% - 12 years in 10  
 10% - 4 years in 10