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

LATITUDE 46° 02' N
LONGITUDE 118° 20' W
ELEV. (GROUND) 949 feet

CLIMATOLOGICAL SUMMARY

STATION : WALLA WALLA, WASH.

NORMALS, MEANS, AND EXTREMES

Month	Temperature: Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	Mean degree days	Precipitation: Mean total	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, Sleet, Hail: Mean total	Maximum monthly	Year	Maximum in 24 hrs.	Year
(a)	(b)	(b)	(b)	45		45		(b)	(b)	45		45		45		45	45		45	
J	37.7	26.3	32.0	69	1935	-16	1957+	1023	1.68	4.52	1953	.34	1949	1.42	1948	8.2	30.9	1916	8.5	1928
F	44.9	31.6	38.3	70	1932	-14	1950	748	1.53	3.99	1940	.10	1920	1.32	1916	4.8	33.4	1916	14.0	1916
M	55.2	38.3	46.8	79	1942+	13	1955	564	1.52	3.70	1931	.47	1923	1.19	1921	1.2	6.2	1944	6.0	1944
A	64.0	43.7	53.9	93	1926	19	1936	338	1.24	3.68	1917	.11	1956	1.58	1915	.2	4.0	1929	4.0	1929
M	72.5	49.9	61.2	99	1936+	28	1954	171	1.26	4.19	1957	T	1924	1.86	1957	T	T	1953	T	1953
J	79.5	56.3	67.9	106	1924	41	1916	38	1.21	3.04	1941	.04	1919	2.02	1923					
J	89.3	63.0	76.2	112	1928	46	1921	0	.28	1.42	1948	.00	1953	1.15	1940					
A	87.1	61.3	74.2	105	1942	45	1918	0	.34	1.87	1920	T	1955+	1.01	1924					
S	77.0	53.6	65.3	103	1955+	26	1926	93	.86	4.50	1927	T	1943	1.39	1927					
O	64.7	45.6	55.2	88	1934	15	1935	308	1.48	4.20	1950	.01	1917	1.37	1947	.1	1.8	1919	1.5	1935+
N	48.8	36.1	42.5	77	1934	1	1955	675	1.86	3.94	1926	.01	1936	1.41	1932	1.7	19.9	1921	12.1	1921
D	42.0	30.6	36.3	73	1921	-14	1919	890	1.81	4.11	1917	.58	1927	1.35	1917	4.4	13.8	1916	9.1	1948
Yr.	63.6	44.7	54.2	112	JUL 1928	-16	JAN 1957+	4848	15.07	4.52	JAN 1953	.00	JUL 1953	2.02	JUN 1923	20.6	33.4	FEB 1916	14.0	FEB 1916

Month	Relative humidity: 4:30 A. PST	10:00 A. PST	4:30 P. 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, Hail 1.0 or more	Thunderstorms	Heavy fog	Max. temp. 90° ∧ ll	Max. temp. 32° ∨ ll	Min. temp. 32° ∨ ll	Min. temp. Zero ∨ ll
(a)	25	16	28	44	44	44	44		44	18	45	45	45	45	45	45	45	45	45	45	45
J	75	75	74	5.2	S	42	SW	1951	24	8.3	3	5	23	14	3	*	3	0	10	20	1
F	75	69	67	5.4	S	38	W	1926	35	7.9	4	6	18	11	1	*	2	0	3	13	*
M	69	58	48	6.3	S	62	W	1957	51	7.1	6	9	16	12	*	*	*	0	*	5	0
A	66	48	38	6.1	S	41	NW	1957	63	6.2	9	10	11	9	*	1	0	*	0	1	0
M	64	47	34	5.7	S	32	W	1919	67	5.6	11	11	9	9	0	2	*	1	0	*	0
J	60	44	30	5.5	S	37	S	1921	72	5.2	12	10	8	7	0	2	0	5	0	0	0
J	50	34	22	5.4	S	36	W	1921	86	2.4	22	6	3	3	0	2	0	15	0	0	0
A	50	38	23	5.1	S	26	W	1943	84	2.9	21	7	3	3	0	2	0	13	0	0	0
S	60	44	35	4.7	S	51	W	1956	72	4.2	15	8	7	5	0	1	*	3	0	*	0
O	69	57	49	4.5	S	54	SE	1950	59	5.7	12	7	12	9	*	*	*	0	*	1	0
N	77	72	70	4.7	S	67	SW	1958	33	7.9	5	6	19	11	1	*	3	0	2	10	0
D	76	77	75	5.2	S	44	S	1956	20	8.7	2	5	24	14	2	0	5	0	7	17	*
Yr.	66	55	47	5.3	S	67	SW	NOV 1958	60	6.0	122	90	153	107	7	11	14	37	22	66	2

(a) Length of record, years.
(b) Normal values are based on the period 1921-1950 and are means adjusted to represent observations taken at the present standard location.
* Wind direction to 8 compass points only.
January-May and September-December 1956 considered in compiling wind and sunshine data in above table.
Means and extremes in the above table are from the existing location. Annual extremes have been exceeded at prior locations as follows: Highest temperature 113 in August 1898; lowest temperature -29 in January 1875; maximum monthly precipitation 5.15 in November 1897; maximum precipitation in 24 hours 2.74 in May 1906; fastest mile of wind 70 from Southwest in December 1912.

NARRATIVE CLIMATOLOGICAL SUMMARY

Walla Walla is located near the upper end of a wide valley which extends from west to east from the main valley of the Columbia River. The Blue Mountains rise to the south, southeast and east of the city, with the foothills of these mountains 10 to 15 miles away. North and northeast of the valley there are rolling hills with elevations to about 2,000 feet. The Walla Walla River and a number of smaller tributary streams originate along the slopes of the Blue Mountains, flow westward through the valley and empty into the Columbia River.

There is a wide variety of growing conditions because the elevation of farmland varies from about 360 feet to over 3,000 feet. Temperatures are lower and precipitation is heavier over the higher elevations. 15 to 20 miles west of Walla Walla, at about 500 feet, the annual precipitation is less than 10 inches. Over the higher elevations to the south and east the annual precipitation is 35-40 inches and more. Wheat and peas are grown up to an elevation of over 3,000 feet. Advantage is taken of this range in elevation in order to space the maturing and harvesting of green peas over a longer season by later plantings at higher levels. Irrigation is used in the valley for growing orchards, strawberries, tomatoes, hay, sugar beets, asparagus, lettuce and cabbage.

The moderate climate of Walla Walla is due to the prevailing flow of air from the Pacific Ocean. Cold spells are caused by outbreaks of frigid air from Canada. They are broken by Chinook winds, a flow of relatively warmer air from the ocean. Summer hot spells are caused by a northward drift of warm dry air from the deserts. The hot spells are broken by a flow of ocean air which is relatively cooler. Precipitation is light because the prevailing flow of ocean air loses much of its moisture while crossing the Cascade Mountains.

Summers are rather hot, but the humidity is low and hot nights are rare. The normal daily range in summer temperatures is about 26°. 113° is the record highest temperature and the mean number of days with temperatures 90° and higher is 37 per year. Winter cold spells are usually of short duration. Temperatures of zero and below are rare although the record lowest temperature is 29° below zero. From 1886 to 1957, the latest spring dates of the following temperatures were: 32° - May 9, 1922, 28° - May 1, 1954, and 24° - April 2, 1935. From 1886 to 1957, the earliest fall dates of the following temperatures were: 32° - September 23, 1926, 28° - September 24, 1926 and 24° - October 19, 1905. The average last date in the spring when 32° is recorded in the agricultural valley is during the first part of April and the first date in the fall is usually after the first of October.

Since 1886, the wettest year was 1893 with 23.07 inches of precipitation; the driest was 1935 with 10.12 inches. The dry season begins in July with most of the summer rain from scattered and infrequent showers. Fall rains begin in September and November is normally the wettest month. Precipitation gradually tapers off from December through June. Extremely heavy rains are infrequent. The heaviest winter snowfall was 76.9 inches in the winter of 1915-16. The lightest was 2.1 inches in the winter of 1914-15.

Days with thunderstorms average 11 per year with most of them from May to August. Three tornadoes have been reported in this area. On June 26, 1916, a tornado southeast of Walla Walla caused minor property damage. On September 2, 1936, a tornado briefly touched farm land northwest of Walla Walla and caused no damage. On June 26, 1958, a tornado at Wallula Junction in western Walla Walla County caused property damage and destroyed trees.

Strong winds are infrequent but they occasionally cause duststorms.

Valley fogs sometimes persist for several days at a time from November through February.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	1.13	1.87	1.24	.68	2.85	.58	.02	.14	1.33	1.00	1.64	.74	13.22
1931	1.51	.90	3.70	.66	.37	2.01	.11	T	.98	1.51	2.38	2.84	16.97
1932	1.51	1.86	3.43	.94	1.31	.06	.33	T	.05	1.48	3.07	.72	14.76
1933	1.28	1.73	1.32	1.27	2.13	.42	.04	.15	1.27	2.05	1.08	3.48	16.22
1934	1.21	.53	2.29	.44	.41	1.08	.06	.35	.60	1.57	2.38	1.57	12.49
1935	1.18	.83	1.15	2.13	.33	.86	.20	.19	.10	1.26	.50	1.39	10.12
1936	3.21	2.26	.50	.74	.49	.88	.04	.01	.93	.03	.01	1.12	10.22
1937	1.75	.97	1.97	3.09	.47	1.91	.15	.15	.20	.74	2.89	2.07	16.36
1938	1.41	2.18	1.34	1.43	1.84	.95	T	.02	.15	1.31	2.44	.86	13.93
1939	1.30	2.01	1.84	.60	.35	.75	.54	T	.38	1.40	.11	2.35	11.63
1940	2.20	3.99	2.20	1.98	.53	.09	1.22	T	1.96	2.42	1.81	1.66	20.06
1941	1.63	1.10	.78	.98	4.09	3.04	.09	.74	1.67	1.50	1.98	2.04	19.64
1942	1.36	1.36	1.02	1.27	3.56	2.79	.83	.09	.04	2.18	3.48	3.62	21.60
1943	.90	.75	1.40	2.34	1.06	1.59	.21	.54	T	2.23	.55	1.11	12.68
1944	1.08	2.05	1.27	2.45	.85	.39	.01	.16	.96	.57	1.16	.72	11.67
1945	2.59	2.20	2.49	2.08	2.31	.96	T	.06	2.09	.61	2.23	1.54	19.16
1946	2.36	.86	1.44	.84	1.78	.98	.22	.17	1.27	1.39	2.60	1.09	15.00
1947	1.41	.54	.82	2.46	.37	2.08	.52	.12	1.10	2.95	2.30	1.93	16.60
1948	2.25	1.62	.72	2.15	2.80	.83	1.42	.39	.53	.66	1.91	2.69	17.97
1949	.34	2.21	1.03	.35	1.49	.24	T	.06	.96	.84	2.05	1.47	11.04
1950	2.73	1.83	2.38	.86	.49	2.66	.18	.47	.10	4.20	2.05	2.96	20.91
1951	1.79	1.65	1.50	.88	.56	2.48	.13	.07	.74	2.77	.89	1.26	14.72
1952	1.22	1.75	1.25	1.10	.70	2.33	T	.02	.49	.09	.41	1.96	11.32
1953	4.52	1.52	1.41	1.77	1.91	.75	.00	.57	.17	1.32	1.97	1.94	17.85
1954	2.21	.60	1.30	1.13	.81	1.34	.13	.96	.61	.88	1.38	1.65	13.00
1955	1.43	.43	.59	2.08	1.20	.30	.97	T	1.32	3.03	3.16	2.49	17.00
1956	3.29	1.63	.97	.11	2.03	.74	.08	1.52	.19	2.08	.53	1.82	14.99
1957	1.76	1.10	2.94	.56	4.19	1.05	T	.15	.97	1.97	1.80	1.87	18.36
1958	2.06	1.60	1.49	3.17	2.36	.80	.08	.01	.49	.44	1.39	3.35	17.24
1959	4.00	2.25	1.50	.86	1.53	1.19	.05	.99	2.41	.93	.73	.88	17.32

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1930	15.1	44.8	47.6	58.2	58.6	65.8	76.7	76.4	65.4	50.6	41.0	32.7	52.7
1931	38.4	39.0	46.6	53.9	64.7	67.2	76.9	75.4	65.2	54.0	38.8	33.1	54.4
1932	33.1	37.4	45.6	54.2	59.2	70.2	71.8	72.6	66.0	55.9	47.9	32.2	53.8
1933	39.1	31.8	45.8	52.6	56.2	68.0	76.6	75.2	62.0	58.8	43.8	44.4	54.5
1934	43.7	43.6	53.4	60.4	64.6	68.6	75.2	75.8	64.0	56.4	48.9	39.3	57.8
1935	36.4	39.8	44.0	49.5	60.2	67.6	75.0	72.7	69.4	53.2	37.1	33.6	53.2
1936	37.5	21.5	45.2	57.8	65.8	69.8	77.0	75.6	64.9	58.2	36.2	40.5	54.2
1937	15.8	34.6	47.5	51.2	61.0	67.6	77.6	71.8	67.6	58.2	46.0	38.7	53.1
1938	36.4	38.2	46.7	54.2	60.6	70.6	79.5	72.6	71.2	55.1	40.0	39.1	55.4
1939	41.1	37.4	47.8	55.6	62.8	65.8	76.8	76.4	67.1	55.4	45.3	42.8	56.2
1940	32.8	42.6	51.6	54.8	64.7	72.4	76.3	75.4	67.4	57.9	37.2	37.0	55.8
1941	34.7	40.2	50.8	56.2	60.0	65.8	79.4	73.4	61.3	52.6	46.0	40.2	55.0
1942	23.9	38.1	47.0	55.3	58.2	64.6	76.9	76.4	67.9	57.4	41.2	38.8	53.8
1943	26.6	38.8	43.8	55.6	57.2	63.2	75.7	71.7	68.9	54.9	40.9	33.2	52.5
1944	33.8	38.4	43.8	53.0	61.1	66.2	75.8	72.8	68.2	59.2	40.8	33.4	53.9
1945	38.0	41.8	44.6	51.0	61.4	65.5	77.6	75.5	62.6	57.2	43.6	34.9	54.5
1946	39.4	42.6	46.6	54.1	61.0	65.2	75.1	74.4	63.4	50.6	39.6	39.3	54.3
1947	32.3	41.8	50.6	55.1	66.0	66.0	74.1	72.0	66.0	55.8	42.6	38.8	55.0
1948	34.9	37.2	42.9	50.4	57.0	70.2	71.2	71.0	63.6	52.3	44.0	31.8	52.2
1949	17.6	35.6	44.7	56.9	64.7	67.6	74.1	74.0	65.9	50.6	47.8	38.6	53.2
1950	17.4	34.9	44.3	50.6	58.6	65.8	75.6	75.7	67.1	54.0	43.2	41.0	52.4
1951	35.5	39.3	42.5	54.4	60.6	67.4	76.8	73.8	66.7	52.8	41.7	31.2	53.6
1952	30.9	40.8	45.2	56.2	61.9	65.6	76.4	74.2	68.9	60.0	36.2	38.2	54.5
1953	48.4	43.4	47.9	51.9	57.9	62.6	75.2	73.6	68.9	56.8	46.5	42.5	56.3
1954	34.8	41.1	42.7	51.9	61.4	63.2	73.5	70.0	64.0	52.2	49.3	36.1	53.4
1955	34.3	37.9	40.6	48.0	55.7	68.4	71.7	74.3	64.8	54.5	35.1	34.2	51.6
1956	34.7	28.2	45.1	55.4	62.2	64.6	77.8	73.0	66.2	52.5	38.4	38.0	53.0
1957	20.6	38.0	44.7	54.3	62.9	68.5	72.8	71.1	67.9	50.4	42.4	42.4	53.0
1958	40.1	47.2	44.8	51.3	66.5	70.8	78.8	78.9	64.6	55.5	43.7	38.5	56.7
1959	37.2	38.8	47.2	53.6	56.8	67.8	76.5	70.9	62.3	54.5	39.2	35.3	53.4

STATION HISTORY

Location:	Date:	Ground Elevation	Elevation of Instruments Above Ground: Wind	Thermometers	Raingage
Isaac Straight (Volunteer Observer) Main St. between 3rd & 4th	1/1/72-11/30/85	963		-	-
Paine Bros. Bldg. 3rd Floor, 2nd & Main	12/1/85-9/6/04	966	71	66	56
Ransome Bldg. 4th Floor 1st & Alder	9/7/04-7/15/11	966	79	72	63
Baker Bldg. 7th Floor 2nd & Main	7/16/11-1/31/14	963	115	108	99
Federal P.O. Bldg. 2nd Floor 2nd & Sumach St.	2/1/14 to present	949	65	58	49

(A more detailed local monthly and annual climatological data summaries are available from the U.S. Weather Bureau Office, Walla Walla, Washington)

PROBABILITY OF 32°, 30°, 28° AND 24° OCCURRING AS LATE IN THE SPRING OR AS EARLY IN THE FALL AS DATES LISTED IN THE FOLLOWING TABLES

	PROBABILITY - SPRING				PROBABILITY - FALL			
	75%	50%	30%	10%	10%	30%	50%	75%
32°	Apr 9	Apr 20	Apr 29	May 12	Sep 20	Oct 1	Oct 9	Oct 19
30°	Apr 2	Apr 13	Apr 22	May 4	Sep 29	Oct 10	Oct 18	Oct 27
28°	Mar 23	Apr 3	Apr 12	Apr 24	Oct 10	Oct 21	Oct 29	Nov 8
24°	Mar 6	Mar 17	Mar 26	Apr 7	Oct 25	Nov 5	Nov 13	Nov 23

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

Climatological data recorded at the U.S. Bureau of Entomology and Plant Quarantine Office, located in a broad level valley 3 miles west of the Post Office in Walla Walla and at an elevation of 800 ft., were used in computing the probability of below freezing temperatures. The thermometers are installed 4 ft. above the ground in an instrument shelter located on a sod-covered plot.

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

30% - 12 years in 40

10% - 4 years in 40