

**U. S. DEPARTMENT OF AGRICULTURE**  
**WEATHER BUREAU**  
CHARLES F. MARVIN, Chief

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**METEOROLOGICAL  
SUMMARY**

WITH COMPARATIVE DATA

1872-1925

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WALLA WALLA, WASHINGTON

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Compiled by  
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WEATHER BUREAU OFFICE  
BOISE, IDAHO  
1926

# U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU

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## THE CLIMATE OF WALLA WALLA

The city of Walla Walla is located in a wide valley at an elevation above sea level of 950 feet. The Blue Mountains rise to a height of 3000 to 3500 feet 15 to 20 miles away to the south, southeast and east. Rolling hills extend to the north. The trend of the valley is east to west, the Walla Walla river flowing into the Columbia 30 miles due west of the city. Irrigation is practised in the valley proper, where fruit, vegetables and alfalfa are grown in abundance. Wheat is the principal product in the foothill districts and on the hills to the north. Fall seeding of wheat is the rule generally, and in practically all parts of the district the summer fallow process of farming is carried on, one crop of grain being raised on any particular field every other year. This is made necessary by the light amount of annual precipitation, although the great depth and moisture-holding character of the soil enable the grain to withstand long periods with little or no precipitation. Conservation of the soil moisture is aided by frequent cultivation during the "off year".

The climate in general is one of mild, moist winters and hot, dry summers. The average temperature of the three summer months is 71°. The maximum has been 100° or above every year but one since the beginning of the Weather Bureau record, but the summer heat is rarely oppressive owing to the dryness of the air, as shown by the records of low relative humidity. The 5 p. m. average relative humidity is 30 per cent during the three summer months, and on the hottest days the humidity is often less than 15 per cent. Due to this low humidity, evaporation is rapid; this is a cooling process, rendering the temperature of the surface of the body several degrees lower than the air temperature. Consequently heat prostrations are extremely rare. Another factor that makes the summer high temperature much less uncomfortable than it would otherwise be is the large change in temperature from day to night. The daily range in summer averages high, about 26 degrees, and hot nights are a rarity.

Although Walla Walla is cut off from the modifying influence of the Pacific Ocean by the high barrier of the Cascade range, and is near the 46th parallel of latitude, its average winter temperature is higher than that of many inland places situated south of the 40th parallel. The average temperature of the three winter months is 35°. Sometimes extremely low temperatures are experienced, but often a winter passes with minimum temperature above zero. The proximity of the Blue Mountains southeast and south of the Walla Walla valley gives a dynamic heating effect to the prevailing southerly winds in descending their slopes. These winds, when they attain a high velocity, are known locally as "chinooks", and are brought about by the interchange of air between an area of high pressure that covers the high plateau region of eastern Oregon, southern Idaho and northern Nevada - a frequent condition in winter - and areas of low pressure that advance eastwardly north of the valley. The chinook winds are a familiar feature of Walla Walla's winter climate. Coming as they frequently do after a period of cold weather, often with snow on the ground, they bring a welcome change to mild, balmy conditions. Snow melts and evaporates rapidly before the warm, dry breath of the chinook, the temperature often rising from 20 to 30 degrees in a few hours time. During the prevalence of "chinook weather" the nights are almost as warm as the days.

The Walla Walla valley has a particularly long growing season. The average date of last killing frost in the spring is March 31, and of first fall killing frost, November 5. This gives an average growing season of 218 days. The latest recorded date of killing frost in the spring was May 9, and earliest date of killing frost in the fall, September 28. In addition to the fall planting of wheat, some varieties of vegetables, such as onions and spinach, are sown in the fall and harvested in the spring. The danger of winter killing is not great, and early vegetables are shipped from the Walla Walla valley to points in northern Idaho, Montana and western Canada often when a mantle of snow covers those regions. Severe frost damage to fruit buds and tender garden truck is rare enough that orchard heating and other protective measures are practised in the valley only to a limited extent. However,

orchard heating is being extended more and more as its value as a means of crop insurance has been demonstrated.

Of the normal annual precipitation, 17.67 inches, the distribution is fairly equal through the fall, winter and spring months. The summer months are dry, and there seldom is any material interruption to the wheat harvest by wet weather. Heavy falls of rain in any season are infrequent. The nearness of the city to the mountains has an important bearing on the amount of precipitation, the annual total in the city being more than double the amount that occurs less than 30 miles to the west or northwest. At the city water intake, 13 miles to the southeast, at an approximate elevation of 2500 feet, the average annual precipitation is increased to more than 40 inches.

The total winter snowfall is, on the average, about 24 inches, the equivalent of about two inches of rain. Occasionally deep snowfalls are experienced, but as a rule the fall is light and snow seldom remains on the ground more than a few days at a time.

The average number of thunderstorms in a year is 8. Destructive storms of this character do not occur, although some damage has been done to growing crops by hail which usually occurs in a thunderstorm.

One of the very few unpleasant features of the climate is the occasional occurrence during the warm season of strong dust storms from the southwest. These storms, however, are not without beneficial effect, as they usually break up a spell of hot weather, their after effects being much the same as those of a plains region thunderstorm. High winds almost never occur during cold weather periods.

Valley fog is common in the winter season, occurring during the prevalence of high barometric pressure over the Pacific Northwest. It often persists for days at a time, resulting in nearly stationary temperature. The amount of sunshine in winter is comparatively small, largely the result of the local fog conditions. The December and January sunshine average is but 22 per cent of the possible amount, while the summer average is 81 per cent.

## HISTORICAL

The weather records at Walla Walla date from 1872. That year a record of temperature was started by Isaac Straight, a pioneer jeweler, the thermometer, an ordinary non-registering one furnished by the U. S. Signal Service, being exposed in the back yard of his place of business on Main Street between 3d and 4th. Daily readings were taken at 7 a. m., 2 p. m., and 9 p. m. The following year, 1873, measurements of precipitation were begun by Mr. Straight. His record was faithfully continued until the establishment of the Government station, but unfortunately the original records were destroyed in a fire, and only printed tables of monthly precipitation, monthly mean temperature, and highest and lowest monthly temperatures, without dates, were preserved.

The Walla Walla station of the Signal Service was established December 1, 1885, with Sergeant H. S. Blanford in charge. The office was located in the Paine building, 2d and Main. On September 6, 1904, it was removed to the Ransom Building, 1st and Alder. The next move was to the Baker Building, 2d and Main, on July 15, 1911, and on February 1, 1914, the office was moved to its present location in the Federal Building, 2d and Sumach streets. On July 1, 1891, the meteorological work of the Government was transferred from the Signal Service of the Army to the newly created Weather Bureau in the Department of Agriculture.

From the beginning of the Government record the instruments have been exposed on the roofs of the different office buildings. The height of the wind velocity instrument has ranged from 65 feet above the ground, its present height, to 115 feet, on the Baker Building. The barometers are 24 feet above the ground, 976 feet above sea level. The rain gage is 50 feet, and thermometers, 57 feet, above the ground. The Walla Walla station is a fully equipped meteorological station, continuous autographic records being made of temperature, rainfall, wind direction and velocity, sunshine, and barometric pressure. The Walla Walla weather record is one of the longest continuous records in the Pacific Northwest.

# NORMAL AND COMPARATIVE DATA FOR WALLA WALLA, WASH.

Based on records of 20 to 41 years

MONTH	TEMPERATURE							Relative Humidity [per cent]		PRECIPITATION			SUNSHINE		WIND			NUMBER OF DAYS														
	Maximum	Minimum	Mean	Adopted normals [46 years]	Highest mean	Lowest mean	Daily range	5 a. m.	5 p. m.	Monthly	Adopted normals [20 years record]	Greatest monthly	Least monthly	Snowfall	Number of hours of possible	Average per cent	Average hourly velocity	Prevailing direction	Highest		Wind 40 miles per hour or over	Clear	Partly cloudy	Cloudy	With precipitation [.01 inch or more]	Snow, [.01 inch or more melted]	Thunderstorms	Dense fog	Max. temp.		Min. temp.	
																			Velocity	Direction									32° or below	90° or above	32° or below	Zero or below
January	39.2	27.3	33.1	32.7	45.6	18.6	12.1	83	80	1.96	2.01	4.99	0.35	8.5	282.9	25	5.7	S	45	SW	0	4	9	18	13	6	0	3	9	0	20	1
February	44.1	30.9	37.4	37.1	47.0	23.2	13.4	82	74	1.68	1.53	3.34	0.10	6.5	290.3	36	5.7	S	50	SW	0	5	11	12	11	4	0	1	4	0	14	†
March	54.3	37.1	45.7	46.1	53.0	39.3	17.2	76	58	1.68	1.63	4.17	0.46	1.5	370.0	53	6.6	S	45	SW	0	8	13	10	11	2	†	†	†	0	6	0
April	63.3	42.5	52.9	53.1	57.8	48.6	20.7	70	45	1.53	1.79	3.88	0.04	0.2	407.2	64	6.6	S	50	SW	0	10	14	6	10	†	†	0	0	†	0	0
May	71.0	48.5	59.8	59.6	66.4	54.4	22.5	69	41	1.61	1.83	4.81	T.	T.	463.8	68	6.1	S	40	SW	0	12	13	6	9	0	1	0	0	†	0	0
June	78.4	54.3	66.4	66.5	73.9	61.4	24.1	66	36	1.09	1.19	3.61	0.04	0	479.9	74	6.0	S	65	SW	0	14	12	4	7	0	2	0	0	4	0	0
July	83.3	61.2	74.8	74.9	81.8	69.8	27.2	56	26	0.39	0.39	1.47	T.	0	475.2	85	5.7	S	52	SW	0	23	6	2	3	0	2	0	0	15	0	0
August	86.9	60.6	73.8	72.7	79.3	66.2	26.3	54	27	0.52	0.45	2.67	0.00	0	437.4	83	5.2	S	50	SW	0	23	6	2	3	0	1	0	0	12	0	0
September	75.8	52.6	64.2	63.8	69.2	58.3	23.2	65	41	0.90	0.93	2.60	0.02	0	376.0	71	5.0	S	38	S	0	16	9	5	6	0	1	0	0	2	0	0
October	64.2	44.3	54.4	53.5	60.4	48.2	19.6	73	56	1.43	1.47	4.02	0.00	0.1	338.3	61	4.8	S	44	SW	0	14	10	7	8	†	†	0	0	0	1	0
November	49.9	36.0	43.0	42.8	49.5	33.8	13.8	78	73	2.05	2.13	5.15	0.01	1.9	244.1	34	5.5	S	46	SW	0	6	9	15	11	1	0	3	2	0	9	†
December	41.5	30.3	35.9	35.5	46.1	22.6	11.8	84	82	1.94	2.10	4.41	0.53	5.0	269.6	20	5.4	S	60	SW	0	3	8	20	14	4	0	5	7	0	17	†
Annual	63.1	43.8	53.4	53.1	56.5	50.0	21.0	71	53	16.78	17.67	23.07	11.15	23.7	4465.7	56	5.7	S	65	SW	†	138	120	107	106	17	7	12	22	33	67	2

\* Daylight hours only

T. Indicates trace

† Less than one

## Monthly and Annual Mean Temperature

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1872	29	36	52	50	61	66	72	70	62	56	31	29	51
1873	39	36	48	52	60	68	77	74	64	50	45	22	53
1874	40	37	43	55	61	55	72	67	61	52	36	35	52
1875	13	28	44	56	59	65	74	72	64	58	40	45	52
1876	28	44	44	53	58	74	75	69	64	58	10	28	53
1877	36	45	50	57	62	67	78	77	62	51	45	36	55
1878	36	46	52	55	62	70	71	72	60	47	44	30	54
1879	30	36	50	52	59	64	71	66	64	50	38	33	51
1880	40	35	41	51	56	66	70	68	62	53	35	28	50
1881	24	36	52	55	59	64	69	66	59	48	37	38	51
1882	33	35	43	50	57	68	73	71	62	47	36	40	51
1883	31	17	47	51	61	70	74	71	62	47	46	34	51
1884	31	25	43	56	65	68	68	73	56	52	42	21	50
1885	29	45	54	58	64	68	75	72	64	54	48	41.8	56
1886	26.2	44.7	45.4	53.0	62.6	69.0	77.6	74.9	65.4	51.8	40.9	40.8	54.4
1887	41.6	23.2	50.1	62.4	60.8	64.0	74.7	72.2	62.2	52.2	41.7	40.1	52.9
1888	22.3	45.8	44.6	57.8	64.0	65.4	73.4	76.6	<b>69.2</b>	56.8	39.2	35.6	54.2
1889	28.7	35.8	53.0	57.0	61.8	70.5	78.0	72.2	63.5	56.2	43.2	32.0	54.3
1890	20.6	31.1	42.9	55.6	63.0	65.2	73.2	74.5	66.6	53.4	44.6	43.2	52.8
1891	39.4	30.3	<b>39.3</b>	55.3	64.6	64.2	74.4	76.0	64.4	57.5	45.6	39.8	54.2
1892	32.6	42.0	49.9	48.6	59.2	66.7	71.8	73.6	66.6	55.1	46.8	33.1	53.8
1893	28.8	28.0	43.0	48.7	57.0	62.0	72.2	73.8	62.2	49.7	41.0	41.4	50.6
1894	33.7	33.0	41.4	51.6	59.4	63.9	75.5	76.8	62.2	53.6	47.2	34.8	53.0
1895	31.8	42.4	45.0	54.7	58.6	66.1	71.2	72.5	58.3	55.7	33.4	37.6	53.1
1896	39.1	44.5	44.1	48.9	54.4	67.8	79.1	74.2	62.6	54.2	33.8	39.2	53.5
1897	30.8	39.4	39.6	55.8	65.3	64.9	70.6	76.8	63.2	53.8	41.8	35.7	53.1
1898	32.2	45.4	42.0	53.8	58.4	66.0	74.0	78.4	65.4	52.6	40.8	28.8	53.2
1899	36.4	31.4	43.4	50.7	55.2	63.9	75.2	66.2	67.7	61.6	<b>49.5</b>	37.4	52.4
1900	41.2	37.2	51.2	52.6	60.8	69.8	74.6	68.5	61.5	53.0	40.3	42.0	54.4
1901	33.0	37.6	46.4	50.3	60.1	61.4	72.0	77.6	58.8	59.4	45.8	37.5	53.3
1902	31.0	39.6	45.4	51.1	58.0	64.6	69.8	73.3	63.3	56.6	43.2	31.4	52.4
1903	38.2	34.8	44.0	49.4	58.8	69.7	70.4	71.9	61.9	55.4	42.1	33.5	52.5
1904	39.0	39.3	42.6	55.4	59.4	66.4	72.6	76.6	67.2	56.3	48.0	38.6	55.1
1905	33.3	34.8	49.0	54.4	57.0	65.2	77.8	...	65.6	48.2	41.4	33.9	...
1906	38.1	40.2	42.2	57.2	59.0	62.8	<b>81.8</b>	74.6	66.9	56.8	41.8	37.3	54.9
1907	23.8	38.4	43.6	51.0	63.0	62.6	...	67.8	63.6	<b>60.4</b>	46.8	38.4	...
1908	36.6	38.8	46.2	54.2	56.4	63.1	78.0	73.9	66.4	53.0	47.0	34.2	54.2
1909	26.2	43.2	48.0	50.8	57.8	63.6	70.9	71.8	66.1	54.6	46.2	28.1	52.4
1910	31.2	39.8	51.8	57.0	63.7	65.2	76.2	70.6	62.4	56.0	43.9	38.4	53.9
1911	36.0	33.1	48.9	51.6	56.4	66.6	77.1	73.0	61.3	53.2	41.4	36.6	52.9
1912	31.2	41.0	42.4	52.2	61.2	63.8	72.6	68.6	62.3	50.9	45.5	39.0	53.1
1913	32.0	29.8	42.1	53.2	60.2	66.9	73.9	74.9	64.8	51.4	46.0	31.6	52.2
1914	<b>45.6</b>	36.3	49.4	53.4	62.2	64.9	77.2	75.2	61.6	51.4	44.6	26.0	54.2
1915	30.8	42.0	49.7	56.9	58.0	66.1	73.0	<b>79.3</b>	63.4	56.8	42.7	38.2	54.7
1916	18.6	32.6	47.7	53.1	55.8	64.4	69.8	74.0	61.2	52.4	36.5	30.5	50.0
1917	34.0	36.9	39.8	49.0	57.0	64.8	77.2	76.8	66.8	56.6	46.6	<b>46.1</b>	54.2
1918	39.8	38.7	49.0	53.2	56.8	73.1	75.1	70.0	68.8	57.0	42.7	37.8	55.2
1919	36.8	39.0	46.8	54.0	59.4	66.4	76.4	75.6	63.0	50.2	40.5	22.6	52.6
1920	31.6	37.1	45.2	49.0	57.9	65.0	76.5	73.8	63.4	52.0	41.8	39.8	52.8
1921	37.8	40.7	47.2	50.2	60.4	70.4	73.8	74.6	59.6	57.9	43.9	31.3	53.9
1922	23.0	33.4	43.2	49.2	59.0	73.9	78.0	74.2	68.4	56.5	36.9	30.8	52.2
1923	40.8	29.8	46.6	54.1	60.0	65.0	76.0	75.4	67.1	52.7	44.8	38.0	54.2
1924	30.7	46.4	44.4	52.8	<b>66.4</b>	69.2	75.4	72.8	65.2	55.3	39.6	26.6	53.7
1925	41.0	<b>47.0</b>	47.8	57.2	62.6	70.0	79.0	73.6	64.5	53.8	41.4	40.4	<b>56.5</b>
Nor.	32.7	37.1	46.1	53.1	59.6	66.5	74.0	72.7	63.8	53.5	42.8	35.5	53.1

Note:- Data prior to December, 1885, from private record.

Greatest in bold-face type; least in italics

## Temperature Extremes (1872-1925)

Month	High- est	Year	Day	Lowest	Year	Day
January	70	1914	6	-29	1875	.....
February	72	1876	.....	-20	1883	.....
March	79	1911	22	2	1891	3
April	92	1910	25	20	1876	.....
May	100	1897	29	32	1922	9
June	106	1924	30	39	1885	.....
July	111	1905	21	45	1891	6
August	113	1898	10	41	1907	†31
September	100	1888	3	35	1882	.....
October	87	1904	1	22	1881	.....
November	78	1908	3	-9	1896	28
December	73	1921	12	-17	1884	.....

Note:- Data prior to December, 1885, from a private record.

† Also August 24th, 1910.

# Monthly, Annual and Seasonal (Sept. 1 to Aug. 31) Precipitation

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual	Season	Amt.
1873	1.52	2.06	1.47	1.75	2.91	1.29	0.81	0.12	0.00	0.00	0.56	0.65	13.13	1873-74	9.95
1874	1.52	1.98	0.59	1.89	1.10	1.12	0.00	0.54	0.05	0.41	2.09	0.55	11.84	1874-75	13.76
1875	1.96	0.78	1.11	0.98	1.36	3.37	0.00	1.10	0.19	2.05	1.86	1.15	15.91	1875-76	12.41
1876	0.38	0.77	0.73	2.16	1.78	0.63	0.27	0.47	0.51	4.37	4.12	1.16	17.32	1876-77	24.57
1877	0.68	1.45	4.45	0.59	4.97	0.98	1.19	0.10	1.40	1.30	2.72	0.73	20.56	1877-78	14.32
1878	1.23	2.24	1.53	0.16	2.17	0.09	0.67	0.08	1.29	2.08	0.79	1.31	13.64	1878-79	19.31
1879	2.45	1.92	2.14	2.23	3.41	0.94	0.32	0.43	1.62	0.29	1.83	2.90	20.48	1879-80	17.07
1880	1.61	0.49	1.07	2.01	1.54	0.98	1.54	1.19	0.17	1.21	1.00	4.90	17.71	1880-81	20.97
1881	3.76	3.45	1.39	2.28	0.19	1.91	0.37	0.34	0.66	3.93	2.32	1.67	22.27	1881-82	19.27
1882	0.78	2.27	1.30	3.22	1.57	0.78	0.67	0.10	0.99	3.20	2.10	3.89	20.87	1882-83	18.92
1883	4.10	0.80	2.05	1.59	0.12	0.08	0.00	0.00	0.14	1.08	1.37	1.23	12.56	1883-84	14.76
1884	1.17	3.40	1.26	1.97	0.60	2.20	0.26	0.08	1.23	2.65	0.77	5.02	20.61	1884-85	20.16
1885	1.67	2.39	0.06	0.05	4.20	2.10	0.00	0.02	0.60	0.70	1.60	1.92	15.31	1885-86	18.82
1886	3.45	1.29	1.06	1.66	0.67	0.73	0.02	0.12	0.06	1.95	0.78	4.41	16.20	1886-87	18.68
1887	2.36	1.78	1.83	1.57	1.08	2.12	0.03	0.71	1.55	1.52	3.06	2.83	20.44	1887-88	17.14
1888	2.21	0.80	1.44	0.69	0.21	2.37	0.46	0.00	0.02	2.33	0.87	2.19	13.59	1888-89	15.00
1889	0.47	0.79	1.39	1.51	4.04	1.33	T	0.06	0.33	0.88	0.81	2.92	14.53	1889-90	14.64
1890	2.53	1.35	2.45	0.38	1.36	1.42	0.07	0.14	0.38	0.77	0.01	0.91	11.80	1890-91	13.93
1891	1.18	2.70	1.16	0.72	0.88	3.81	1.33	0.24	0.41	0.47	1.57	1.83	16.11	1891-92	15.60
1892	3.84	0.80	1.73	2.06	1.25	1.04	0.39	0.21	0.71	0.92	1.73	2.26	16.94	1892-93	18.00
1893	0.79	1.75	2.33	3.88	3.04	0.37	0.22	T	2.60	4.02	2.87	1.20	23.07	1893-94	26.10
1894	4.09	1.74	3.75	2.19	1.85	0.83	0.03	0.03	1.05	2.48	0.75	0.80	20.49	1894-95	13.63
1895	2.52	0.55	1.17	1.23	2.31	0.04	0.50	0.23	2.13	0.00	1.67	2.54	14.89	1895-96	18.37
1896	1.88	1.20	1.15	3.85	1.68	0.88	0.15	1.24	0.17	1.57	3.09	2.55	19.41	1896-97	19.79
1897	1.85	2.61	2.38	1.75	1.05	1.51	0.84	0.42	1.41	0.23	5.15	2.11	21.67	1897-98	19.36
1898	1.88	1.33	1.52	1.83	2.26	0.84	0.28	0.22	0.56	1.09	3.74	0.85	16.84	1898-99	19.57
1899	2.30	2.75	2.25	1.68	1.53	0.66	T	2.16	1.24	3.07	2.84	2.51	22.99	1899-00	22.11
1900	1.92	1.62	1.61	3.49	2.29	0.65	0.22	0.65	0.98	3.09	1.40	0.97	18.89	1900-01	15.40
1901	2.11	2.16	1.29	0.67	1.52	0.97	0.23	0.01	1.88	0.38	1.19	2.11	14.52	1901-02	16.15
1902	1.44	2.58	0.69	1.66	2.68	0.11	1.35	0.08	0.54	0.93	4.37	2.45	18.88	1902-03	16.39
1903	1.34	0.11	1.92	0.89	1.26	0.79	0.60	1.18	1.47	1.20	3.15	1.69	15.70	1903-04	22.12
1904	2.13	2.87	4.17	2.11	0.61	1.08	1.47	0.08	0.26	1.39	0.20	1.76	18.13	1904-05	14.27
1905	1.29	0.96	1.70	0.97	2.99	2.39	0.36	T	1.91	1.41	1.63	1.51	17.12	1905-06	17.59
1906	0.89	1.69	1.89	0.04	4.81	1.19	0.02	0.68	0.62	1.05	2.70	3.63	19.13	1906-07	18.58
1907	2.52	1.76	1.97	0.88	1.07	0.86	0.43	1.09	0.63	0.70	1.65	2.23	15.77	1907-08	12.37
1908	0.67	2.67	1.53	0.38	0.98	0.84	0.43	0.22	0.40	2.11	1.01	0.96	11.66	1908-09	15.00
1909	2.27	2.43	2.62	1.69	0.80	0.69	1.21	0.01	0.61	1.55	3.98	2.07	18.73	1909-10	18.62
1910	2.42	2.73	1.65	1.47	1.40	0.63	T	0.11	0.70	1.39	3.69	0.64	16.82	1910-11	15.33
1911	0.81	2.14	0.46	0.63	3.64	1.22	T	0.02	1.15	0.72	1.10	1.19	13.38	1911-12	15.88
1912	2.90	2.18	1.14	2.07	1.95	1.73	0.59	2.67	0.61	2.13	1.77	0.62	20.36	1912-13	15.19
1913	2.52	1.46	2.07	1.01	1.24	2.11	0.04	0.30	1.29	2.44	1.91	0.99	17.38	1913-14	15.42
1914	2.62	1.59	0.59	1.54	0.98	1.12	0.12	T	1.52	1.99	1.00	0.63	13.60	1914-15	22.07
1915	0.75	1.79	1.96	2.35	2.48	0.40	0.65	T	0.70	0.99	3.04	1.97	17.08	1915-16	15.37
1916	2.79	3.34	3.46	1.83	1.29	1.77	0.72	0.17	0.15	0.38	2.74	2.68	21.32	1916-17	14.38
1917	1.05	1.12	0.52	3.68	2.48	0.57	T	T	1.31	0.01	1.05	4.11	15.90	1917-18	12.70
1918	2.29	1.30	1.26	0.82	0.68	0.10	0.96	0.99	0.32	1.53	1.02	1.48	12.25	1918-19	18.48
1919	2.12	1.93	1.91	1.62	0.58	0.04	0.09	0.06	1.26	1.95	3.16	1.92	16.64	1919-20	17.15
1920	1.55	0.10	2.14	2.80	0.57	1.03	0.13	1.87	1.99	1.65	2.10	2.50	18.43	1920-21	14.59
1921	1.87	2.21	2.24	0.81	0.19	0.67	0.38	0.57	0.79	1.20	3.91	1.57	16.41	1921-22	15.37
1922	1.54	0.97	0.96	1.34	0.46	0.51	0.64	1.25	0.41	0.89	0.95	1.83	11.15	1922-23	14.54
1923	1.85	1.80	0.47	1.24	1.36	2.89	0.33	0.57	0.21	3.11	1.18	2.18	17.19	1923-24	15.60
1924	1.16	1.96	0.62	0.13	T	0.67	0.90	1.25	0.89	1.35	2.25	1.88	13.06	1924-25	14.93
1925	1.26	1.01	1.07	1.01	2.98	0.72	T	0.51	0.31	0.17	0.83	1.84	11.71		
Nor.	2.01	1.58	1.89	1.76	1.83	1.19	0.30	0.45	0.93	1.47	2.13	2.10	17.67		

Notes:- Data prior to December, 1885, from private record.

T. indicates trace of precipitation. † Interpolated.

Greatest amount in bold-face type; least in italics.

## Extremes of Precipitation and Wind (1886-1925)

Month	Precipitation			Wind			
	Greatest in 24 hours	Year	Day	Maximum velocity	Dir.	Year	Day
January	1.13	1920	25-26	45	SW	1887	30
February	1.32	1916	1-2	50	SW	1890	3
March	1.25	1904	7-8	45	SW	1887	11
April	1.58	1915	29-30	50	SW	1895	1
May	2.74	1906	29-30	40	SW	1886	8
June	2.02	1923	1-2	65	SW	1888	14
July	1.20	1902	3-4	52	SW	1912	20
August	1.04	1912	30-31	50	SW	1911	14
September	1.37	1893	12	38	S	1892	23
October	1.52	1893	7-8	44	SW	1912	17
November	1.76	1898	18-19	46	SW	1903	11
December	1.37	1902	3-4	60	SW	1912	3

## Annual Frost Data

Year	Date of last killing frost in spring	Date of first killing frost in autumn	Length of growing season—last killing frost to first killing frost (days)	Latest date with temperature 32° or lower in spring	Earliest date with temperature 32° or lower in autumn
1886	Apr. 4	Sept. 28	177	Mar. 27	Nov. 1
1887	Apr. 3	Oct. 23	203	Apr. 4	Oct. 23
1888	Mar. 29	Oct. 18	203	Mar. 26	Nov. 11
1889	Mar. 26	Nov. 1	220	Feb. 24	Nov. 3
1890	Apr. 13	Nov. 6	207	Apr. 13	Nov. 6
1891	Apr. 1	Oct. 31	213	Apr. 1	Nov. 11
1892	Feb. 24	Nov. 24	273	Feb. 25	Nov. 9
1893	Apr. 8	Oct. 23	198	Mar. 20	Oct. 23
1894	Mar. 22	Oct. 20	212	Mar. 22	Nov. 4
1895	Apr. 5	Oct. 28	206	Apr. 5	Oct. 27
1896	Apr. 16	Nov. 18	216	Apr. 16	Nov. 6
1897	Apr. 11	Nov. 21	224	Mar. 30	Oct. 16
1898	Mar. 22	Nov. 9	232	Mar. 26	Nov. 8
1899	Apr. 23	Dec. 2	223	Mar. 27	Oct. 12
1900	Apr. 8	Nov. 18	224	Apr. 8	Oct. 27
1901	Apr. 8	Nov. 26	232	Apr. 15	Nov. 8
1902	Apr. 13	Nov. 20	221	Apr. 13	Nov. 8
1903	Apr. 5	Nov. 16	225	Apr. 11	Nov. 14
1904	Mar. 26	Dec. 3	252	Mar. 27	Nov. 11
1905	Apr. 10	Oct. 19	192	Mar. 29	Oct. 18
1906	Mar. 17	Nov. 19	247	Mar. 20	Nov. 2
1907	Apr. 28	Nov. 12	198	Mar. 25	Nov. 11
1908	Apr. 7	Oct. 22	198	Apr. 7	Oct. 22
1909	Mar. 21	Nov. 14	238	Mar. 21	Nov. 7
1910	Mar. 6	Oct. 27	235	Mar. 6	Oct. 27
1911	Mar. 3	Oct. 28	239	Apr. 13	Nov. 9
1912	Mar. 21	Oct. 31	224	Mar. 21	Oct. 31
1913	Apr. 2	Dec. 3	245	Apr. 2	Dec. 1
1914	Feb. 18	Nov. 15	270	Feb. 18	Nov. 15
1915	Mar. 26	Nov. 7	226	Mar. 26	Nov. 12
1916	Mar. 14	Oct. 8	208	Mar. 14	Oct. 8
1917	Mar. 30	Oct. 18	202	Mar. 30	Oct. 28
1918	Apr. 3	Nov. 8	219	Apr. 3	Nov. 22
1919	Apr. 15	Oct. 24	192	Feb. 24	Oct. 23
1920	Apr. 3	Oct. 31	211	Apr. 3	Oct. 31
1921	Apr. 4	Oct. 23	202	Apr. 7	Nov. 17
1922	May 9	Oct. 29	173	May 9	Nov. 1
1923	Mar. 18	Oct. 29	225	Mar. 18	Oct. 29
1924	Apr. 24	Nov. 12	202	Apr. 24	Nov. 12
1925	Mar. 26	Nov. 1	220	Mar. 26	Nov. 1

## Miscellaneous Frost Data

Average date of last killing frost in the spring, March 31st.

Average date of first killing frost in the autumn, November 5th.

Latest date of killing frost in the spring, 1886-1925 inc., May 9, 1922.

Earliest date of killing frost in the autumn, 1886-1925 inc., Sept. 28, 1886.

Latest date of temperature 32° or lower in spring, 1886-1925 inc., May 9, 1922.

Earliest date temperature 32° or lower in autumn, 1886-1925 inc., Oct. 8, 1916.

Average length of growing season, last killing frost to first killing frost, 218 days.

## Seasonal Snowfall, Inches

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	Seasonal
1886-87	0	0	0.4	8.7	3.4	27.0	T.	0	0	0	39.5
1887-88	0	0	0.7	4.0	10.7	1.3	6.5	0	0	0	23.2
1888-89	0	0	0	0.6	2.0	3.3	0	0	0	0	5.9
1889-90	0	0	0.8	12.1	22.7	10.8	0.6	T.	0	0	47.0
1890-91	0	0	0	0	T.	19.2	0	0	0	0	19.2
1891-92	0	0	1.0	4.5	10.7	0	0	0	0	0	16.2
1892-93	0	0	T.	12.4	7.7	8.3	0.3	1.0	0	0	28.7
1893-94	0	0	3.5	T.	22.5	4.6	T.	0	0	0	30.6
1894-95	0	0	0	2.8	16.0	0	T.	0	0	0	18.8
1895-96	0	0	T.	8.2	6.3	3.4	1.1	T.	0	0	19.0
1896-97	0	0	10.9	8.8	10.0	2.2	5.0	0	0	0	36.9
1897-98	0	0	9.8	2.6	4.9	0.2	7.5	0	0	0	25.0
1898-99	0	0	3.5	3.4	7.9	20.1	T.	0	0	0	34.9
1899-00	0	T.	0	9.1	0	6.7	0	T.	0	0	15.8
1900-01	0	0	2.8	T.	10.5	2.7	T.	1.4	0	0	17.4
1901-02	0	0	0	3.5	5.4	0.6	T.	0	0	0	12.5
1902-03	0	0	0	5.7	1.3	1.1	6.8	T.	0	0	14.9
1903-04	0	0	T.	4.0	9.4	4.0	4.8	0	0	0	22.2
1904-05	0	0	0	2.4	2.6	2.6	0.4	0	0	0	8.0
1905-06	0	0	7.0	0.9	4.1	T.	4.4	0	0	0	16.4
1906-07	0	0	T.	4.7	16.7	8.6	0.4	0	0	0	30.4
1907-08	0	0	0	4.0	2.4	2.8	T.	0	0	0	9.2
1908-09	0	0	T.	0.7	21.1	2.5	0.8	T.	0	0	25.1
1909-10	0	0	3.3	11.0	8.2	17.5	0	0	0	0	40.0
1910-11	0	0	0.3	0.7	1.5	17.0	0	1.5	0	0	21.0
1911-12	0	0	1.5	5.4	8.9	1.0	2.2	0	0	0	19.0
1912-13	0	0	T.	0.2	15.6	12.0	4.4	0	0	0	32.2
1913-14	0	0	T.	8.3	4.0	3.4	0	0	0	0	15.7
1914-15	0	0	0.3	0.6	1.2	0	T.	T.	0	0	2.1
1915-16	0	0	2.6	5.5	<b>30.9</b>	<b>33.4</b>	4.5	0	T.	0	<b>76.9</b>
1916-17	0	0	0	<b>13.8</b>	4.6	8.4	T.	0.3	0	0	27.1
1917-18	0	0	0	T.	3.7	5.4	3.2	1.7	0	0	14.0
1918-19	0	0	1.0	3.1	4.0	5.8	T.	0	0	0	13.9
1919-20	0	1.8	3.2	13.1	2.7	0.6	2.5	0.5	0	0	24.4
1920-21	0	0	0.1	5.2	3.3	5.8	3.5	<b>2.3</b>	0	0	20.2
1921-22	0	0	<b>19.9</b>	6.4	16.3	2.4	2.1	0.1	0	0	47.2
1922-23	0	0	0.2	13.4	1.6	15.1	T.	0	0	0	31.3
1923-24	0	0	T.	4.7	3.8	0	T.	T.	0	0	8.5
1924-25	0	0	1.3	7.9	4.1	0	T.	T.	0	0	13.3
Means	0	T.	1.9	5.0	8.5	6.5	1.5	0.2	T.	0	23.6

Greatest monthly snowfall in bold-face type

T. indicates trace

## Miscellaneous Snowfall Data

Greatest 24 hour snowfall -- 14.0 inches, on February 2, 1916.

Greatest depth on ground -- 37.5 inches, on February 3 and 4, 1916.

Average number of days during year with snow (0.1 inch or more) on ground -- 26.

Longest period (consecutive days) with snow (0.1 inch or more) on ground -- 51, from December 18, 1921 to February 6, 1922, incl.

Average date of first snowfall (trace or more) -- November 21.

Earliest snowfall on record for station -- October 12, 1899.

Average date of last snowfall (trace or more) -- March 27.

Latest snowfall on record for station -- May 10, 1916.



Table of Sunrise and Sunset for Walla Walla, Wash

for all years

120th Meridian (Pacific) Time

Date	January		February		March		April		May		June		July		August		September		October		November		December	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
1.....	7.35	4.19	7.15	4.58	6.32	5.39	5.33	6.21	4.40	7.00	4.05	7.36	4.06	7.47	4.35	7.23	5.13	6.32	5.51	5.34	6.34	4.39	7.15	4.09
2.....	7.35	4.19	7.14	5.00	6.30	5.40	5.31	6.23	4.38	7.02	4.05	7.37	4.07	7.47	4.37	7.22	5.15	6.30	5.53	5.32	6.35	4.38	7.16	4.09
3.....	7.35	4.20	7.13	5.01	6.28	5.42	5.29	6.24	4.36	7.03	4.04	7.37	4.07	7.47	4.38	7.29	5.16	6.28	5.54	5.30	6.37	4.37	7.17	4.09
4.....	7.35	4.21	7.12	5.03	6.26	5.43	5.27	6.25	4.35	7.04	4.04	7.38	4.08	7.47	4.39	7.19	5.17	6.26	5.55	5.28	6.38	4.35	7.18	4.09
5.....	7.35	4.22	7.11	5.04	6.24	5.45	5.25	6.26	4.34	7.06	4.03	7.39	4.08	7.46	4.40	7.17	5.19	6.24	5.57	5.26	6.40	4.34	7.19	4.08
6.....	7.35	4.23	7.10	5.05	6.23	5.46	5.23	6.27	4.32	7.07	4.03	7.40	4.09	7.46	4.41	7.16	5.20	6.22	5.58	5.24	6.41	4.32	7.20	4.08
7.....	7.35	4.25	7.08	5.07	6.21	5.47	5.21	6.29	4.31	7.08	4.03	7.41	4.10	7.46	4.42	7.15	5.21	6.20	5.59	5.23	6.42	4.31	7.22	4.08
8.....	7.34	4.26	7.06	5.08	6.19	5.49	5.19	6.30	4.29	7.09	4.02	7.41	4.11	7.45	4.44	7.13	5.23	6.19	6.01	5.21	6.44	4.30	7.23	4.08
9.....	7.34	4.27	7.05	5.10	6.17	5.50	5.17	6.32	4.28	7.10	4.02	7.42	4.11	7.45	4.45	7.12	5.24	6.17	6.02	5.19	6.45	4.29	7.23	4.08
10.....	7.34	4.28	7.04	5.11	6.15	5.52	5.16	6.33	4.27	7.12	4.02	7.42	4.12	7.44	4.46	7.10	5.25	6.15	6.03	5.17	6.47	4.28	7.24	4.08
11.....	7.33	4.29	7.03	5.12	6.13	5.53	5.14	6.34	4.25	7.13	4.02	7.43	4.13	7.43	4.47	7.09	5.26	6.13	6.05	5.15	6.48	4.26	7.25	4.08
12.....	7.33	4.31	7.01	5.14	6.11	5.54	5.12	6.36	4.24	7.14	4.02	7.44	4.14	7.43	4.49	7.07	5.27	6.11	6.06	5.13	6.49	4.25	7.26	4.08
13.....	7.32	4.32	6.59	5.16	6.09	5.56	5.10	6.37	4.23	7.16	4.01	7.44	4.15	7.42	4.50	7.05	5.29	6.09	6.07	5.11	6.51	4.24	7.27	4.08
14.....	7.32	4.33	6.57	5.17	6.08	5.57	5.08	6.38	4.22	7.17	4.01	7.45	4.16	7.41	4.51	7.04	5.30	6.07	6.09	5.09	6.52	4.23	7.28	4.08
15.....	7.31	4.34	6.56	5.19	6.06	5.58	5.07	6.39	4.21	7.18	4.01	7.45	4.17	7.41	4.52	7.02	5.31	6.05	6.10	5.07	6.54	4.22	7.29	4.08
16.....	7.31	4.35	6.54	5.20	6.04	6.00	5.05	6.41	4.19	7.19	4.01	7.46	4.18	7.40	4.54	7.01	5.32	6.03	6.11	5.06	6.55	4.21	7.29	4.08
17.....	7.30	4.37	6.53	5.22	6.02	6.01	5.03	6.42	4.18	7.20	4.01	7.46	4.19	7.39	4.55	6.59	5.34	6.01	6.13	5.04	6.57	4.20	7.30	4.09
18.....	7.29	4.38	6.51	5.23	6.00	6.02	5.01	6.43	4.17	7.21	4.01	7.47	4.20	7.38	4.56	6.57	5.35	5.59	6.14	5.02	6.58	4.19	7.31	4.09
19.....	7.28	4.40	6.49	5.25	5.58	6.04	4.59	6.45	4.16	7.23	4.01	7.47	4.21	7.37	4.57	6.56	5.37	5.57	6.15	5.01	6.59	4.18	7.31	4.09
20.....	7.27	4.41	6.47	5.26	5.56	6.05	4.58	6.46	4.15	7.24	4.01	7.47	4.22	7.36	4.59	6.54	5.38	5.55	6.17	4.59	7.01	4.17	7.32	4.10
21.....	7.27	4.42	6.46	5.28	5.54	6.07	4.56	6.47	4.14	7.25	4.01	7.47	4.23	7.35	5.00	6.52	5.39	5.53	6.18	4.57	7.02	4.16	7.32	4.10
22.....	7.26	4.44	6.44	5.29	5.52	6.08	4.54	6.49	4.13	7.26	4.02	7.48	4.24	7.34	5.01	6.50	5.40	5.51	6.20	4.55	7.03	4.15	7.33	4.11
23.....	7.25	4.45	6.42	5.31	5.50	6.09	4.52	6.50	4.12	7.27	4.02	7.48	4.25	7.33	5.02	6.49	5.41	5.49	6.21	4.54	7.05	4.15	7.33	4.11
24.....	7.24	4.47	6.40	5.32	5.48	6.10	4.51	6.51	4.11	7.28	4.03	7.48	4.26	7.32	5.04	6.47	5.43	5.47	6.23	4.52	7.06	4.14	7.34	4.12
25.....	7.23	4.48	6.39	5.34	5.46	6.12	4.49	6.53	4.10	7.29	4.03	7.48	4.27	7.31	5.05	6.45	5.44	5.45	6.24	4.50	7.07	4.13	7.34	4.13
26.....	7.22	4.49	6.37	5.35	5.44	6.13	4.47	6.54	4.09	7.30	4.03	7.48	4.28	7.30	5.06	6.43	5.45	5.43	6.25	4.49	7.09	4.12	7.35	4.13
27.....	7.21	4.51	6.35	5.36	5.42	6.15	4.46	6.55	4.09	7.31	4.04	7.48	4.29	7.29	5.07	6.41	5.47	5.41	6.27	4.47	7.10	4.12	7.35	4.14
28.....	7.20	4.52	6.34	5.38	5.40	6.16	4.44	6.56	4.08	7.32	4.04	7.48	4.31	7.28	5.09	6.39	5.48	5.39	6.28	4.45	7.11	4.11	7.35	4.15
29.....	7.19	4.54	6.32	5.39	5.39	6.17	4.43	6.58	4.07	7.33	4.05	7.48	4.32	7.27	5.10	6.38	5.49	5.37	6.30	4.44	7.12	4.11	7.35	4.15
30.....	7.18	4.56	.....	.....	5.37	6.18	4.41	6.59	4.07	7.34	4.05	7.47	4.33	7.26	5.11	6.36	5.50	5.36	6.31	4.42	7.14	4.10	7.35	4.16
31.....	7.16	4.57	.....	.....	5.35	6.20	.....	.....	4.06	7.35	.....	.....	4.34	7.25	5.12	6.34	.....	.....	6.33	4.41	.....	.....	7.35	4.17

# Monthly and Annual Percentage of Sunshine

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
1905	....	....	....	....	65	79	94	....	63	59	70	20	....
1906	31	46	73	86	76	82	98	87	76	59	17	4	61
1907	17	30	41	63	75	70	....	60	52	77	56	18	....
1908	33	40	50	74	63	77	81	81	74	56	50	18	58
1909	28	30	72	68	67	69	80	92	68	62	24	16	56
1910	22	35	61	65	76	78	89	87	70	64	21	12	57
1911	26	48	76	76	63	77	90	92	70	68	37	41	64
1912	21	40	58	55	69	72	75	71	77	53	19	42	54
1913	28	45	43	64	67	63	83	75	76	44	17	13	52
1914	18	24	56	58	76	68	85	84	55	58	36	18	53
1915	18	36	60	71	53	78	76	93	73	56	21	20	55
1916	27	25	41	68	61	65	78	86	71	78	42	11	54
1917	28	30	31	36	58	70	90	95	75	78	47	14	54
1918	31	29	54	76	64	82	70	77	77	56	34	17	55
1919	49	19	48	67	72	85	87	88	79	56	40	31	60
1920	13	54	38	51	66	66	87	79	61	41	42	18	51
1921	24	24	54	53	67	71	89	88	63	65	33	19	54
1922	19	28	43	62	70	87	86	71	81	62	15	17	53
1923	21	47	53	60	61	61	77	84	78	59	44	28	56
1924	30	47	59	67	88	76	85	86	76	54	21	26	60
1925	17	33	51	64	66	76	91	77	61	66	28	14	54
Mms	25	36	53	64	68	74	85	83	71	61	34	20	56