U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH MCMINNVILLE CHAMBER OF COMMERCE
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 — 35

CLIMATOLOGICAL SUMMARY

LATITUDE 45° 14' N
LONGITUDE 123° 11' W
ELEV. (GROUND) 148 Feet

STATION MCMINNVILLE, OREGON

MEANS AND EXTREMES FOR PERIOD # 1929 - 1965

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		30	30		30		30	30	30	30	30	
Jan.	44.5	31.7	38.1	67	1958	-2	1943	834	6.40	2.45	1956	4.7	47.0	1950	14.0	1930	14	0	2	17	*	Jan.
Feb.	50.3	33.6	42.0	66	1963+	2	1950	644	5.59	2.79	1949	1.1	7.0	1949	7.0	1937	12	0	*	11	0	Feb.
Mar.	55.2	36.2	45.7	87	1930	15	1956	598	4.62	2.50	1951	1.4	23.6	1951	7.0	1951	12	0	0	9	0	Mar.
Apr.	62.3	38.8	50.6	89	1931	24	1931	432	2.41	1.76	1962	T	T	1955+	T	1955+	7	0	0	5	0	Apr.
May	69.3	42.7	56.0	95	1931	24	1954	279	1.79	1.63	1957	0.0	0.0		0		5	1	0	1	0	May
June	74.9	46.4	60.7	99	1942	32	1965	141	1.22	1.04	1953	0.0	0.0		0		4	2	0	*	0	June
July	83.1	48.5	65.8	108	1938	34	1960+	30	0.42	0.83	1946	0.0	0.0		0		1	7	0	0	0	July
Aug.	82.1	48.5	65.3	105	1931	30	1955	38	0.48	0.70	1953	0.0	0.0		0		2	6	0	*	0	Aug.
Sep.	76.7	45.9	61.3	102	1943	28	1961	132	1.50	1.61	1945	0.0	0.0		0		3	3	0	1	0	Sep.
Oct.	64.7	41.8	53.3	90	1952+	26	1961+	363	3.56	2.38	1955	T	T	1950	T	1950	9	*	0	3	0	Oct.
Nov.	52.5	36.9	44.7	75	1930+	9	1955	609	6.87	2.80	1946	0.2	5.5	1955	4.5	1955	12	0	*	8	0	Nov.
Dec.	47.3	35.0	41.2	69	1950	6	1964	738	7.42	3.67	1937	1.3	15.6	1964	6.5	1964	15	0	*	11	0	Dec.
Year	63.6	40.5	52.1	108	July 1938	-2	Jan. 1943	4838	42.28	3.67	Dec. 1937	8.7	47.0	Jan. 1950	14.0	Jan. 1930	96	19	3	66	*	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.

See Station History for missing or incomplete years.

CLIMATE OF MCMINNVILLE, OREGON

McMinnville lies in the lower end of the Yamhill Valley where it merges with the much larger valley of the Willamette River. Three miles south of the city the northern end of Eola Hills rise to heights of 800 to 1,000 feet above the valley floor. About the same distance west, foothills of the Coast Range begin their gradual ascent to a crest ridge generally of between 2,000 and 3,000 feet in this area. North, low rolling hills separate the valleys of the Yamhill and the Tualatin rivers. Eastward, however, the broad, fairly level valley plains of the Willamette stretch for some sixty miles to the rugged foothills of the Cascades. Their crest in northern Oregon is mostly above 5,000 feet with a number of peaks rising several thousand feet higher.

While McMinnville is only thirty-five airline miles from the Pacific Ocean, shielding afforded by the Coastal Range produces a much different weather than the marine climate of the coastal area. To the east, the Cascade Mountains serve equally well to protect it from strong continental effects. Airflow here is predominately from the west, thus the Pacific Ocean greatly moderates both the colder temperatures of winter and heat of summer. The more extreme temperatures that do occur are linked with the invasion of an easterly airflow through the Columbia Gorge or over the lower passes of the Cascades. The winter months are comparatively cloudy with the sun shining only about 25% to 35% of the time possible, but the very mild temperatures that usually prevail permit outdoor activities in comfort almost any time of the year. Late spring, summer and early fall months are usually sunny with warm, though not hot, days and cool nights. There is an average growing season, based on last occurrence in spring and first in fall of a temperature of 32°, of 170 days. In the table below are shown the dates to ten percentiles of probability for the last occurrence in spring and first in fall for temperatures of 32°, 28° and 24°.

STATISTICAL LIKELIHOOD (IN PER CENT) THAT TEMPERATURES OF 32°, 28° AND 24° WILL OCCUR IN SPRING AFTER DATES INDICATED

Tempt.	90%	80%	70%	60%	50%	40%	30%	20%	10%
24°	1/4	1/20	1/29	2/6	2/14	2/21	3/4	3/12	3/31
28°	2/11	2/25	3/6	3/13	3/20	3/28	4/5	4/14	4/26
32°	3/24	4/7	4/17	4/23	4/30	5/8	5/16	5/25	6/6

STATISTICAL LIKELIHOOD (IN PER CENT) THAT TEMPERATURES OF 32°, 28° AND 24° WILL OCCUR IN FALL BEFORE DATES INDICATED

Tempt.	10%	20%	30%	40%	50%	60%	70%	80%	90%
24°	11/12	11/21	11/28	12/4	12/10	12/18	12/28	None	None
28°	10/13	10/22	10/28	11/2	11/7	11/12	11/17	11/23	12/2
32°	9/22	10/1	10/7	10/12	10/17	10/22	10/27	11/2	11/11

During the nearly 75 years observations have been taken at McMinnville the temperatures have ranged from a high of 110° to a low of 24° below zero. On the average, however, there are less than 3 days a year with temperatures above 100 and only in about 1 year in 20 do they drop down to zero. The annual extremes are shown graphically on the reverse side.

This area, in common with all of western Oregon, has very predominantly a winter rainfall climate with 73% of its annual total occurring in the 5 months of November through March. Only about 5% falls in the 3 summer months. Annual totals, in the 72 years for which this value can be determined, have ranged between a high of 64.92 inches to a low of 27.70. On the average, less than 2% of this is in the form of snow. While seasonal snowfall totals have been as high as 48.5 inches, there have been a number of entire winters when no measurable amounts were observed. Only rarely do falls exceed 3 or 4 inches and usually melt within a few hours or at most within 2 or 3 days.

Thunderstorms can be expected on an average of 6 to 8 times a year. These are occasionally accompanied by hail, but seldom does either cause serious damage other than for infrequent, lightning-set forest fires on surrounding mountains. Perhaps 2 or 3 times a year fairly strong winds move in from the Pacific reaching velocities of 50-70 miles per hour. These cause fairly widespread telephone and power service outages, and some standing timber may be blown down. Otherwise, damage is not serious and generally confined to very small areas. In the entire recorded history of the Willamette Valley less than a half dozen true tornadoes have been observed, and these have all been very small and short-lived. Total damage resulting from all of them combined has been insignificant.

No official relative humidity values have ever been obtained for McMinnville, but long-period averages for Portland, Oregon are shown in the table below. These should be closely representative of actual conditions throughout the middle and lower Willamette Valley floor.

MONTHLY AVERAGE RELATIVE HUMIDITY (IN %) FOR SELECTED TIMES OF DAY

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ann'l.
4 am	86	87	87	86	86	85	84	86	88	91	89	87	87
10 am	81	80	72	67	66	65	62	66	67	80	82	84	73
4 pm	76	69	62	55	54	50	47	49	50	66	75	79	61
10 pm	83	82	80	76	75	73	70	73	77	86	85	85	79

Both the climate and soil of the Willamette Valley are suited to a wide variety of crops. Yamhill County, of which McMinnville is the county seat, annually produces multi-million dollar crops of walnuts, vegetables for both the fresh and processing markets, a considerable acreage of small grains and a number of seed crops. Also grown extensively are hay, cane and strawberries, filberts, poultry for both the egg and meat markets, cherries, prunes, pears and many other field and orchard crops.

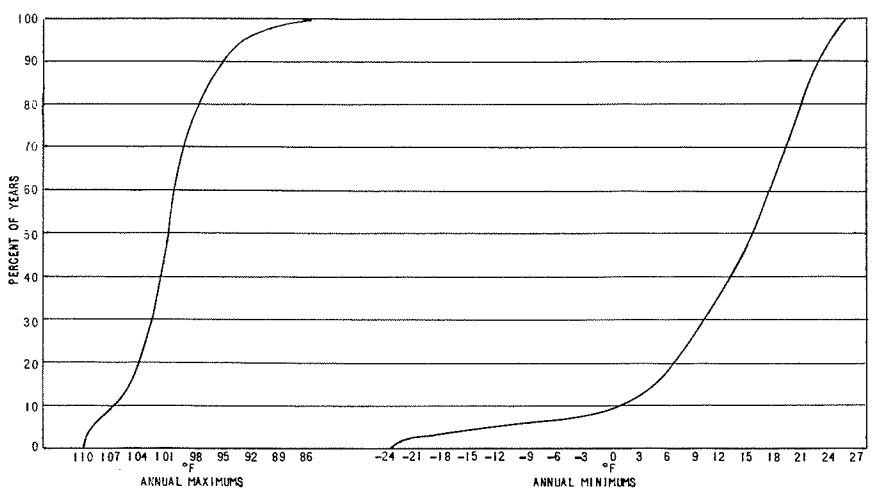
Gilbert L. Sternes, State Climatologist
Weather Bureau Office, Portland, Oregon

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1929	35.1	37.0	47.0	48.6	56.6	61.6	67.4	66.9	64.8	57.4	41.9	43.5	52.3
1930	28.8	44.8	49.0	54.5	52.9	60.1	65.5	69.3	62.0	52.1	44.6	38.9	51.9
1931	42.6	44.0	47.0	53.6	62.2	63.2	70.8	69.4	61.8	53.6	42.7	39.1	54.2
1937	29.3	40.0	48.4	47.3	56.5	62.4	67.0	64.0	61.6	56.6	48.2	42.3	52.0
1938	39.4	42.0	44.0	51.8	56.8	64.0	69.2	63.4	65.0	54.4	43.3	41.8	52.9
1939	41.6	39.6	47.4	53.3	56.8	59.8	66.5	66.3	62.7	54.8	45.8	44.0	53.2
1940	40.7	45.6	48.8	52.0	59.0	63.0	65.6	66.8	62.6	56.3	43.4	42.6	53.9
1941	42.7	46.4	51.9	52.1	56.2	60.4	69.3	66.1	59.0	52.7	45.6	41.8	53.7
1942	36.2	42.1	45.0	50.6	54.7	59.0	66.6	68.6	61.0	54.0	44.0	42.6	52.0
1945	42.5	44.2	43.9	49.0	57.8	60.4	66.0	65.7	59.6	52.8	44.8	41.2	52.3
1946	39.2	42.0	45.7	50.0	58.4	59.0	65.8	65.2	59.7	49.0	43.2	41.8	51.6
1947	36.5	45.4	49.8	53.3	59.8	59.8	63.4	63.2	62.3	53.2	46.2	41.0	52.8
1948	38.9	40.2	44.4	47.8	55.4	64.2	64.4	64.2	60.0	51.2	42.9	37.0	50.9
1949	29.3	39.4	46.4	52.8	59.1	61.5	64.4	64.8	63.2	48.1	47.8	40.6	51.4
1950	29.1	40.5	44.9	49.1	54.2	61.9	65.6	67.4	60.1	50.8	45.5	46.9	51.3
1951	38.5	42.5	40.9	51.7	55.4	62.7	65.7	64.0	62.7	52.7	44.7	37.4	51.6
1952	36.3	39.1	43.8	51.3	54.6	58.4	67.1	65.6	63.4	56.8	39.9	41.3	51.5
1953	46.6	42.9	45.0	49.8	54.5	57.9	63.3	64.4	61.5	53.3	47.4	43.0	52.5
1954	40.5	43.6	44.0	49.7	56.1	56.6	62.0	62.2	58.9	51.9	48.8	40.8	51.3
1955	38.4	40.6	41.7	46.3	52.5	59.2	62.3	61.4	59.3	53.6	43.5	40.9	50.0
1956	39.9	35.7	42.9	51.2	58.1	57.9	66.4	64.4	60.2	50.5	42.5	39.5	50.7
1957	31.8	40.8	46.7	50.8	57.3	60.9	63.1	61.6	64.2	52.8	43.4	44.2	51.5
1958	46.4	47.9	44.6	50.4	59.7	64.0	69.5	67.8	61.2	54.3	45.7	44.9	54.7
1959	41.3	42.2	45.4	50.5	53.3	60.4	65.6	62.4	57.4	53.0	43.6	39.7	51.2
1960	34.9	41.7	44.5	49.7	53.0	60.8	65.5	62.8	59.9	53.7	45.3	39.6	51.0
1961	44.3	46.1	46.6	49.7	54.6	62.6	66.8	69.3	58.4	52.9	42.8	40.5	52.9
1962	37.3	42.0	43.9	51.4	52.4	59.6	63.9	64.0	62.0	52.4	47.4	42.4	51.6
1963	34.4	48.3	44.9	48.4	56.1	59.2	62.8	66.0	64.6	53.6	45.4	39.1	51.9
1964	40.6	41.7	44.3	47.9	53.9	59.8	65.6	64.0	59.3	54.8	42.6	39.2	51.1
1965	40.4	43.7	48.3	52.0	52.7	60.1	67.4	67.2	59.2	55.0	47.4	36.7	52.5

BELOW IS SHOWN GRAPHICALLY THE PERCENT OF YEARS MAXIMUM AND MINIMUM TEMPERATURES WITHIN RANGES OF THREE DEGREES HAVE BEEN REACHED DURING THE PERIOD 1889 - 1965

(FIGURES ACROSS THE BOTTOM OF THE GRAPH INDICATE THE RANGE OF VALUES INTO WHICH THE HIGHEST AND LOWEST ANNUAL TEMPERATURES HAVE BEEN GROUPED. THE VERTICAL VALUES INDICATE THE PERCENT OF YEARS TEMPERATURES AT LEAST THAT HIGH OR THAT LOW HAVE BEEN REACHED.)



Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	6.51	2.78	7.45	2.39	1.32	2.56	0.00	0.00	2.35	4.88	7.48	9.55	47.27
1936	11.08	5.24	3.08	0.56	3.22	1.72	0.67	0.03	0.97	0.22	0.42	6.97	34.18
1937	4.61	6.89	3.12	7.07	0.87	2.93	0.14	0.61	1.43	2.79	11.57	15.73	57.76
1938	5.60	8.34	8.34	1.49	0.34	0.04	0.27	0.05	1.02	2.63	4.64	4.34	37.10
1939	4.47	5.73	2.15	0.33	0.75	0.99	0.24	0.84	0.35	2.81	1.39	9.25	29.30
1940	4.00	12.49	4.96	2.65	2.08	0.04	0.29	T	2.43	4.15	5.23	5.67	43.99
1941	5.90	1.56	1.41	1.91	2.91	0.79	T	0.89	2.80	2.68	6.08	10.19	37.12
1942	5.81	4.40	1.51	1.75	3.76	1.68	0.84	0.08	0.05	3.11	15.94	12.25	51.18
1944	5.10	3.26	2.70	3.81	0.63	0.79	0.36	0.08	1.58	2.23	4.61	2.55	27.70
1945	4.86	7.10	6.01	2.78	3.43	0.23	0.27	0.06	2.89	1.01	12.99	7.69	49.32
1946	8.07	6.06	5.75	1.03	1.13	1.56	0.94	0.10	1.64	4.66	8.56	6.53	46.03
1947	4.76	3.47	4.37	1.69	0.11	3.65	1.26	0.59	1.20	9.32	3.70	4.75	38.87
1948	6.88	7.89	4.98	3.55	4.63	0.56	0.53	0.57	3.26	2.33	7.94	10.24	53.36
1949	1.39	13.34	2.77	0.94	2.61	0.47	0.48	0.13	1.12	3.08	6.84	7.38	40.55
1950	10.62	6.48	6.51	1.38	0.70	1.33	0.52	1.08	1.34	9.33	9.61	6.76	55.66
1951	10.08	5.27	7.29	1.13	1.83	T	0.17	0.44	2.54	7.24	7.63	9.22	52.84
1952	6.09	4.34	2.91	1.73	0.49	1.66	0.00	0.30	0.34	0.78	1.75	7.40	27.79
1953	12.58	4.08	4.62	2.50	2.37	2.19	0.02	2.25	0.97	2.36	6.73	8.50	49.17
1954	9.82	6.01	2.97	3.30	1.22	2.53	0.70	0.45	1.12	3.55	5.78	6.60	44.05
1955	3.29	3.40	4.65	4.77	0.69	1.14	0.75	0.00	2.96	7.25	7.88	7.79	44.57
1956	13.41	4.59	7.03	0.43	0.70	1.37	0.00	0.86	1.14	5.80	1.56	5.17	42.06
1957	2.57	5.41	6.91	2.10	2.96	0.92	0.15	0.35	0.83	3.12	2.79	10.37	38.48
1958	7.87	8.12	2.20	3.73	0.73	2.07	0.06	0.01	0.85	2.72	8.02	5.77	42.15
1959	10.72	4.32	4.50	1.05	2.08	2.26	0.63	0.10	3.31	2.43	3.96	2.77	38.13
1960	4.68	5.37	6.16	3.83	3.82	0.32	0.00	0.89	0.60	3.27	11.24	2.95	43.13
1961	5.63	12.03	7.57	2.63	2.37	0.08	0.62	0.38	0.50	4.10	5.23	6.65	47.79
1962	1.53	3.83	4.97	3.95	1.85	0.43	T	0.85	1.97	5.66	11.17	2.41	38.62
1963	2.26	3.51	6.70	4.15	2.60	1.05	1.43	1.22	2.28	2.99	7.04	3.54	38.77
1964	12.13	0.91	4.27	1.32	0.49	1.24	0.80	0.67	1.22	1.22	9.92	13.93	48.12
1965	9.69	1.55	0.81	2.32	1.00	T	0.34	0.60	T	2.05	8.35	9.64	36.35

STATION HISTORY

THE WEATHER BUREAU DID NOT MAKE GENERAL USE OF A STANDARD FORM TO OFFICIALLY RECORD LOCATION DATA FOR ITS SUBSTATIONS UNTIL SOMETIME AFTER 1900. AS A RESULT, LITTLE IS KNOWN ABOUT THE EARLY LOCATION OF THE MC MINNVILLE WEATHER STATION. FRAGMENTARY RECORDS INDICATE THAT SOME WEATHER OBSERVING WAS BEGUN IN 1888, BUT DEPENDABLE, REGULAR DAILY RECORDS AVAILABLE AT THE STATE CLIMATOLOGIST'S OFFICE IN PORTLAND BEGIN WITH SEPTEMBER 1, 1890 WITH WYATT HARRIS THE OBSERVER. MR. HARRIS CONTINUED UNTIL DECEMBER 31, 1897. SUCCEEDING OBSERVERS; THEIR PERIOD OF SERVICE; AND, WHERE KNOWN, THE LOCATION OF THEIR EQUIPMENT IS SHOWN IN THE TABLE BELOW:

NAME	PERIOD OF SERVICE	LOCATION OF EQUIPMENT
A. M. BRUMBACK	JANUARY 1, 1898-JULY 31, 1902	PROBABLY ON LINFIELD COLLEGE CAMPUS
W. F. FARGO	AUGUST 1, 1902-JUNE 30, 1906	SAME
F. G. BOUGHTON	JULY 1, 1906-AUGUST 31, 1906	SAME
C. S. TINGLEY	SEPTEMBER 1, 1906-MAY 31, 1908	SAME
C. J. MC KEE	JUNE 1, 1908-JULY 12, 1909	SAME
J. H. PRUETT	JULY 12, 1909-SEPTEMBER 15, 1911	429 I STREET
M. E. PETTIT	SEPTEMBER 15, 1911-SEPTEMBER 30, 1914	825 ST. JOHN STREET
LINFIELD COLLEGE	OCTOBER 1, 1914-FEBRUARY 28, 1921	ON LINFIELD COLLEGE CAMPUS
JOHN S. FLETCHER	MARCH 1, 1921-FEBRUARY 28, 1932	AT WEST END OF DAYTON BRIDGE
HARLEY P. STOWELL	MARCH 1, 1932-APRIL 30, 1932	ONE MILE SOUTH OF CENTER OF CITY
SAMUEL MAYFIELD	NOVEMBER 25, 1935-JULY 31, 1936	LINFIELD COLLEGE CAMPUS
ARTHUR H. FAIRHILL	AUGUST 1, 1936-MAY 31, 1941	SAME
DOROTHY M. FENDER	JUNE 1, 1941-FEBRUARY 28, 1944	SAME
ARTHUR H. FAIRHILL	MARCH 1, 1944-MAY 31, 1950	704 RUMMEL STREET
RADIO STATION KMCM	JUNE 1, 1950- TO DATE	1.7 MILES NORTHEAST OF POST OFFICE.

OBSERVATIONS WERE TAKEN BY SEVERAL DIFFERENT STUDENTS AND EMPLOYEES OF THE COLLEGE DURING THESE PERIODS.

DURING MUCH OF THIS TIME, AS IS EVIDENT FROM THE ABOVE, THE OBSERVATIONS WERE TAKEN ON THE LINFIELD COLLEGE CAMPUS WITH VARIOUS STUDENTS OFTEN DOING THE WORK. WHILE THE RECORDS ARE USUALLY GOOD WHEN TAKEN THERE ARE A NUMBER OF MISSING PERIODS DUE NO DOUBT TO VACATIONS OR OTHER CAUSES. RULES REGARDING THE PREPARATION OF THESE SUMMARIES REQUIRE THAT IF A MONTH OR MORE OF RECORD IS MISSING IN ANY YEAR THAT NO PART OF THAT YEAR BE USED IN COMPUTING PERIOD AVERAGES (THOUGH IT MAY BE USED IN DETERMINING THE EXTREME VALUES SUCH AS HIGHEST OR LOWEST OF RECORD). FOR THAT REASON THE YEARS 1932, 1933, 1934, 1935, 1936, 1943 AND 1944 COULD NOT BE INCLUDED IN THIRTY YEARS USED FOR DETERMINING PERIOD TEMPERATURE AVERAGES. SIMILARLY, THE YEARS 1932, 1933, 1934 AND 1935 WERE NOT USABLE IN COMPUTING SNOWFALL AND PRECIPITATION AVERAGES.

THE RECORDS OBTAINED DURING THE LATTER PERIOD OF MR. FAIRHILL'S SERVICE AND DURING THAT OF RADIO STATION KMCM HAVE BEEN VERY GOOD WITH VERY FEW OMISSIONS OF ANY SIGNIFICANCE.