U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

In Cooperation with the UNM Bureau of Business Research

LATITUDE: 34° 10' N
LONGITUDE: 103° 21' W
ELEV. (GROUND): 4010 Ft.

CLIMATOLOGICAL SUMMARY

STATION: PORTALES
NEW MEXICO

MEANS AND EXTREMES FOR PERIOD OF RECORD: 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	--	30	30	--	30	--	30	30	30	30	30	(a)
Jan.	52.6	21.4	37.3	80	1950	-18	1947	860	0.46	1.08	1939	2.5	11.0	1936	5.0	1947+	1	0	2	28	1	Jan.
Feb.	58.0	25.3	41.8	83	1950	-28	1933	650	0.36	0.78	1948	1.1	4.2	1938	4.0	1960	1	0	1	22	*	Feb.
Mar.	65.4	30.7	48.2	92	1946	5	1947+	520	0.54	1.15	1933	0.9	6.0	1934+	6.0	1934	1	*	*	18	0	Mar.
Apr.	74.6	39.9	57.2	98	1937	11	1945	250	0.77	1.50	1940+	0.4	3.0	1940	3.0	1940	2	1	0	5	0	Apr.
May	81.9	50.3	66.1	102	1938	29	1954+	60	2.42	3.30	1957	0	0	--	0	--	4	5	0	*	0	May
June	91.0	59.0	75.2	106	1957	37	1955	0	2.41	4.00	1941	0	0	--	0	--	4	18	0	0	0	June
July	92.6	62.7	77.6	107	1940	51	1952+	0	2.93	4.36	1948	0	0	--	0	--	4	23	0	0	0	July
Aug.	91.5	61.5	76.5	105	1944	47	1944	0	2.66	5.15	1952	0	0	--	0	--	4	21	0	0	0	Aug.
Sept.	84.8	54.3	69.5	104	1945	31	1945	30	1.91	2.10	1941	0	0	--	0	--	3	9	0	*	0	Sept.
Oct.	74.9	42.6	58.9	93	1959+	22	1949	220	1.50	2.47	1960	0.2	4.0	1936	4.0	1936	3	*	0	3	0	Oct.
Nov.	62.7	28.8	45.7	90	1950	4	1952+	580	0.45	0.92	1934	0.7	6.0	1931	5.0	1931	1	0	*	20	0	Nov.
Dec.	54.9	23.4	39.1	78	1958	- 9	1939	800	0.58	1.45	1943	2.5	11.5	1931	6.0	1960	2	0	1	28	*	Dec.
Year	73.7	41.7	57.7	107	July 1940	-28	Feb. 1933	3970	16.99	5.15	Aug. 1952	8.3	11.5	Dec. 1931	6.0	Dec. 1960+	30	77	4	124	1	Year

* Less than one half.

** Base 65° F (estimated).

(a) Average length of record, years.

T Trace, an amount too small to measure.

\+ Also on earlier dates, months, or years.

ϕ Partial year's record considered.

CLIMATE OF PORTALES, NEW MEXICO

Portales, county seat of Roosevelt County in east-central New Mexico, is located in rolling country in the northeastern corner of Roosevelt just a few miles from the Texas border. Situated on the southwestern edge of the Great Plains, rolling terrain slopes gradually downward to the east and does not greatly affect the Portales climate. The city is the center of an agricultural area where cotton, peanuts, truck, and feed crops are grown under irrigation from water pumped from wells. Some winter grains and feed crops are produced in the dry-land areas. Ranching is also an important agricultural pursuit. Eastern New Mexico University is located in Portales.

Weather records were begun in Portales in 1905 and, with the exception of a break from 1907 to 1911, have been continued to the present. In this publication only the most recent 30 years of record are summarized.

The city has a semiarid continental climate with distinct seasonal changes. Summer days are moderately warm, but normally experience the wide diurnal temperature range characteristic of a dry continental climate. Most summer nights are comfortably cool, with the temperature usually dropping to the low 60s. In midsummer, daytime temperatures can be expected to go above 90° on about two out of three days, and normally there are about five days with temperatures of above 100°. Winters are generally clear, sunny, and mild. January shade temperatures climb to the low 50s on most days; and, although freezing night temperatures are the rule, yet an average of only one day a year finds the mercury falling below zero. Also, there are only four days in the normal winter when temperatures fail to rise above freezing.

The average annual precipitation at Portales is almost 17 inches. Summer (May-September) is the rainy season, when 73 per cent of the yearly moisture falls. Summer rainfall maxima favor agriculture and produce good grazing on nearby range land. Most of this summer rain falls during brief but sometimes heavy thundershowers, usually occurring during the afternoon or early evening. These showers have a cooling and invigorating effect but do not materially interfere with outdoor activities. Even during the rainy months, rainfall exceeding one-tenth inch can be expected on only four days a month. Hail occasionally accompanies the more severe thundershowers, causing some damage to crops and buildings; and a few tornadoes have been observed in the area, although no serious damage or loss of life has been reported from these storms. Winter precipitation is usually light: no more than an average of one day a month gets as much as one-tenth inch of moisture, some of which is snow. However, falls exceeding three inches in one storm are infrequent, and snow seldom lies for more than a few hours.

Wind, humidity, and sunshine records are not available for Portales; but certain general data from records in the area are considered applicable. The relative humidity should average about 50 per cent annually, ranging from near 70 per cent during the cool morning hours to about 30 per cent during the heat of day. Humidities are normally lowest during late winter and early spring and periods of temperature extremes. Winds probably average close to 12 miles per hour for the year, with late winter and spring being the windiest periods, when hourly averages are around 15 miles per hour. Occasionally, especially in late winter and spring, winds are relatively strong, probably averaging about 30 miles per hour for several hours and resulting in some blowing dust. This area can expect approximately 75 per cent of the year's possible sunshine, with the winter and spring months normally clear and sunny. The growing season averages about six months: from April 19, average date of the last freezing temperature in the spring, to October 21, first freezing temperature in the fall.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	38.0	43.0	43.2	54.8	65.1	78.6	78.6	74.1	74.4	62.1	47.0	37.6	58.0
1932	34.0	48.3	43.6	58.8	66.9	72.8	80.0	77.4	65.8	55.8	45.4	30.0	56.6
1933	38.2	33.0	49.2	54.4	65.2	76.8	79.1	75.1	72.8	60.2	48.0	44.2	58.0
1934	38.4	43.0	48.8	60.5	69.2	77.8	82.2	79.8	69.1	62.9	48.4	40.1	60.0
1935	41.4	41.4	52.9	59.2	62.4	74.5	77.5	76.6	65.8	59.8	45.2	36.7	57.8
1936	34.0	39.6	51.4	57.6	66.8	76.2	77.4	77.2	68.3	56.0	43.4	40.0	57.3
1937	32.6	41.6	44.8	58.8	66.9	74.6	78.7	79.2	70.1	58.8	44.6	37.3	57.3
1938	38.4	43.0	51.2	58.2	67.0	74.4	76.5	77.6	68.0	59.8	44.2	37.8	58.0
1939	38.8	34.7	49.8	57.6	66.8	76.4	77.0	74.6	71.0	57.4	41.6	38.8	57.0
1940	30.5	40.6	50.6	56.6	68.0	73.8	80.3	74.8	72.0	61.6	42.4	41.4	57.7
1941	36.7	42.4	45.3	56.0	64.4	69.6	73.4	73.4	66.7	57.5	46.9	40.4	56.1
1942	36.4	37.1	47.2	55.6	63.7	73.4	74.6	71.4	64.2	56.0	49.3	39.8	55.7
1943	37.0	42.2	46.5	58.8	61.4	72.6	74.2	80.0	68.9	56.2	43.6	36.0	56.4
1944	36.0	41.8	47.0	56.3	66.2	75.0	76.6	77.0	67.4	58.8	47.2	36.6	57.2
1945	39.4	44.6	51.4	54.4	68.1	72.2	76.3	77.9	69.8	57.4	46.4	38.6	58.0
1946	33.8	42.5	51.8	63.2	62.0	75.2	77.7	76.2	69.2	59.0	43.7	41.2	58.0
1947	35.4	37.0	43.0	52.8	66.5	76.0	80.4	77.5	72.8	64.2	41.8	38.8	57.2
1948	32.0	39.2	42.9	60.9	67.9	75.8	78.4	76.9	69.8	57.5	42.4	41.9	57.2
1949	28.8	42.5	49.3	55.0	65.7	73.6	76.3	73.7	69.0	57.0	50.6	39.0	56.7
1950	44.6	47.0	50.8	58.4	66.0	77.2	74.2	73.5	67.5	63.1	49.8	40.7	59.4
1951	37.4	44.3	48.7	56.1	66.8	73.8	79.6	77.8	70.1	60.6	45.2	40.8	58.4
1952	42.3	45.0	46.2	57.1	66.4	77.4	76.7	79.5	68.3	57.3	42.2	38.1	58.1
1953	45.9	42.7	53.1	56.6	64.0	79.5	79.4	77.5	71.3	58.9	47.9	35.5	59.4
1954	40.2	49.6	47.4	61.7	65.2	75.2	79.6	75.3	71.6	60.3	50.4	41.6	59.8
1955	38.8	39.7	49.3	56.3	65.6	72.4	76.8	77.1	70.7	57.8	46.4	43.7	57.9
1956	42.6	37.4	51.8	56.3	71.7	76.8	77.4	76.0	71.7	60.8	43.0	39.0	58.7
1957	37.6	48.4	48.0	53.6	65.2	73.8	80.2	77.4	66.9	56.3	43.1	42.7	57.8
1958	36.1	43.6	43.6	54.6	67.5	76.5	79.4	78.1	70.4	57.2	48.8	39.6	58.0
1959	38.9	41.4	48.5	57.6	68.4	76.6	74.9	76.6	70.7	56.7	44.7	41.1	58.0
1960	35.3	36.7	48.1	59.1	65.2	76.8	77.6	76.5	69.5	58.9	48.6	34.6	57.1

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	.33	.14	.30	2.27	1.93	.13	4.64	3.52	.89	.46	1.31	.98	16.90
1932	.38	.41	.40	1.73	2.16	6.41	.65	2.77	3.41	.64	0	.74	19.70
1933	.59	.42	1.15	0	1.17	.21	2.74	9.37	1.31	.37	.14	0	17.47
1934	0	T	1.86	1.27	4.86	1.02	1.41	3.28	.75	.87	1.72	.04	17.08
1935	T	T	30	0	2.72	1.99	2.02	4.88	.77	T	1.62	.20	14.50
1936	1.04	.20	T	T	3.84	2.12	3.84	1.00	5.31	.86	.10	.27	18.58
1937	.21	.25	1.16	.45	5.25	1.29	1.58	.70	4.74	1.20	0	.60	17.43
1938	.60	.91	1.00	.25	.27	4.00	2.92	.40	3.48	3.06	.03	.05	16.97
1939	1.49	.20	.65	.98	1.00	2.88	2.96	3.24	.90	1.04	.38	1.17	16.89
1940	.36	.35	T	1.50	2.58	1.02	1.03	1.63	.33	.63	1.87	.03	11.33
1941	.31	.09	3.01	1.60	12.05	7.45	3.62	2.29	7.66	5.20	.33	.49	44.10
1942	T	.10	.40	1.46	.33	1.80	1.70	4.53	1.52	4.26	0	1.25	17.35
1943	0	.76	.12	.10	.65	2.26	1.71	.31	.31	.07	1.02	3.16	10.47
1944	.21	.83	.08	1.11	1.06	3.39	1.85	1.86	4.00	.55	.45	.75	16.14
1945	.37	.09	.15	.19	.43	T	3.07	2.31	2.79	1.10	0	.12	10.62
1946	.75	.06	.07	.23	.06	1.19	.70	4.39	2.29	4.05	.68	.42	14.89
1947	.68	.10	.58	1.74	3.37	.08	1.83	.64	.09	.87	.91	1.21	12.10
1948	.80	1.11	.39	.19	1.85	5.77	4.81	3.05	1.18	0.28	.15	.41	19.99
1949	1.35	.95	.10	.82	5.15	5.78	3.92	1.18	.61	1.61	.12	.49	22.08
1950	.05	0	.05	.09	1.01	2.02	12.17	1.13	2.36	1.78	0	.01	20.67
1951	.51	.71	.15	.05	2.97	.72	.36	.77	.23	1.48	.14	1.10	9.19
1952	.37	.32	.02	2.49	.01	3.95	1.49	6.34	.88	0	.80	.42	17.09
1953	.48	.20	.69	.39	1.85	.21	2.88	2.13	0	1.28	.36	.35	10.82
1954	.21	.28	.05	1.02	.77	.89	.94	11.25	.60	2.54	0	.10	18.65
1955	.34	.03	T	.27	2.51	.49	3.16	.20	2.54	.47	0	T	10.01
1956	.17	1.22	T	.21	1.96	1.54	2.14	.61	.49	.74	.08	T	9.16
1957	T	.25	1.58	1.00	5.14	2.12	.83	1.32	.30	3.05	.65	0	16.24
1958	1.30	.25	1.52	1.01	2.67	4.38	1.78	1.15	6.04	.71	.56	.03	21.40
1959	T	.07	.18	.47	1.79	1.80	5.47	2.24	.53	1.37	.05	1.26	15.23
1960	1.00	.50	.37	.12	1.06	5.31	9.54	1.40	.84	4.59	0	1.86	26.59

STATION HISTORY

The climatological weather station was established in January 1905 about a half mile south of the Post Office. John Meeker and Ben Wood served as observers at this site until January 1907. The station was then closed until October 1911, when it was set up a mile northeast of the Post Office, with the Portales Irrigation Company taking observations until January 1916. In February 1916 it was moved to a location two miles northwest of the Post Office, with E. P. Kuhl and J. A. Sanders taking observations until February 1922. Mr. Sanders then moved the station to a site a mile and a half southwest of the Post Office and continued the record until June 1923. In January 1924 the record was taken over by A. J. Goodwin at a location near the Post Office, followed by Annabel Buchanan and J. B. Sledge at other sites in town. In December 1940 the station was moved back to J. A. Sanders' place and kept there until February 1943. In March 1943 the equipment was moved to the Eastern New Mexico College campus and exposed on the roof 20 feet above ground. Observations were made by college personnel until March 1954; then the station was moved to the Radio Station KENM grounds about three quarters of a mile southwest of the Post Office. KENM continued the records until February 1958, when the station was moved again to a site one and four-tenths miles south-southwest of the Post Office, where the present observer Jack D. Dillard took over. There were no significant changes in elevation or exposure from one site to another except for the roof exposure at Eastern New Mexico College.