U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

In Cooperation with the UNM Bureau of Business Research

LATITUDE: 36° 54' N
LONGITUDE: 106° 35' W
ELEV. (GROUND): 7800 Ft.

CLIMATOLOGICAL SUMMARY

STATION: CHAMA
NEW MEXICO

MEANS AND EXTREMES FOR PERIOD OF RECORD: 1925- 1960

Month	Temperature (°F)							**	Precipitation Totals (Inches)								Mean number of days					Month
	Means			Extremes								Snow, Sleet						Temperatures				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean degree days	Mean	Greatest daily	Year	Mean	Maximum monthly	Year	Greatest daily	Year	Precip. .10 inch or more	90° and above	32° and below	32° and below	0° and below	
(a)	30	30	30	30	--	30	--	30	30	30	--	30	30	--	30	--	30	30	30	30	30	(a)
Jan.	36.8	5.7	21.4	57	1945+	-25	1935	1350	1.75	1.60	1957	20.7	61.5	1957	26.0	1951	5	0	9	31	10	Jan.
Feb.	40.1	10.5	25.3	65	1934	-28	1951	1110	1.90	1.45	1937	21.7	66.0	1927	24.0	1929	5	0	4	28	6	Feb.
Mar.	44.8	15.2	30.0	66	1943	-18	1942	1090	1.70	1.23	1944	16.0	34.0	1927	13.0	1940	5	0	2	31	3	Mar.
Apr.	55.7	24.5	40.3	79	1943	-10	1945	740	1.35	1.22	1942	6.6	20.0	1942	12.5	1955ϕ	4	0	*	28	*	Apr.
May	65.6	32.2	49.0	87	1951	14	1933	500	1.50	1.52	1948	2.3	9.0	1935	5.0	1954+	5	0	0	17	0	May
June	76.6	38.7	57.7	98	1936	20	1939	230	0.96	1.20	1943	0.2	5.0	1941	5.0	1941	3	1	0	4	0	June
July	81.2	46.5	63.9	99	1936	33	1942	80	1.96	1.30	1929	0	0	--	0	--	6	2	0	0	0	July
Aug.	78.8	46.3	62.5	98	1937	33	1956ϕ	100	2.69	2.45	1943	0	0	--	0	--	8	1	0	0	0	Aug.
Sept.	73.2	39.2	56.2	90	1948	20	1936+	270	2.13	2.00	1941	0.4	4.5	1936	3.5	1936	5	*	0	4	0	Sept.
Oct.	62.2	30.1	46.3	81	1933	6	1945	580	1.63	1.39	1958	2.8	13.0	1959	6.0	1948+	4	0	*	20	0	Oct.
Nov.	48.6	17.6	33.1	70	1952+	-23	1931	960	0.99	0.85	1953ϕ	10.2	72.0	1931	24.0	1931	3	0	2	30	2	Nov.
Dec.	39.4	9.6	24.5	67	1943	-20	1927+	1260	1.73	1.30	1951	18.7	53.0	1941	18.0	1931	5	0	7	31	6	Dec.
Year	58.6	26.3	42.5	99	June 1936	-28	Feb. 1951	8270	20.29	2.45	Aug. 1943	99.6	72.0	Nov. 1931	26.0	Jan. 1951	58	4	24	224	27	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 CHAMA, NEW MEXICO

Chama is in north-central Rio Arriba County about eight miles from the Colorado line. Situated in the high mountain valley of the Chama river, the city is almost surrounded by towering, timbered mountains. The valley runs in a north-south direction and to the south opens onto a high plateau. Many nearby streams and lakes make Chama the center of a splendid recreational area. Lumbering is the principal regional industry. The Denver and Rio Grande Railroad, the only narrow-gauge railroad in regular operation in the country, serves the city.

Climatological records were started in Chama in July 1889, with a break occurring from May 1897 to December 1905. Records were incomplete in 1946, 1949, 1950, 1953, 1955, and 1956. In order to have a full 30-year record for this summary, all complete yearly records available for the period of 1925 to 1960 were used. The partial records referred to above were employed in determining extreme values.

The climate of Chama is typical of the high valleys of the Rocky Mountains. Summers are cool and pleasant; winters are relatively cold. Summer daytime temperatures are moderate, the daily maximum averaging only slightly over 80° in the warmest month and temperatures of 90° or higher occurring during an average of only four days a year. Nights in midsummer are cool, and freezing temperatures have been experienced in all months except July and August. Winters are cold but sunny. Even in the coldest months, daytime shade temperatures generally average well above the freezing mark; and temperatures normally fail to go above 32° during only 24 days. The valley location is favorable for strong nighttime radiation and drainage of cold mountain air into the low lands. Minimum temperatures generally drop below freezing from November through April and below zero on 27 nights during a normal winter.

With slightly more than 20 inches of precipitation in an average year, Chama is located in one of the more humid sections of New Mexico. While the greatest monthly precipitation totals are to be expected in August and September, winters in this area generally have more moisture than in other sections of the State, most of it falling as snow, which averages an annual total of almost 100 inches. Snowfalls exceeding two feet in 24 hours have been recorded, and an accumulation of three feet or more can be expected sometime during an average winter. Summer rainfall generally falls during brief thundershowers, which are likely to occur in late afternoons or early evenings. The relatively heavier precipitation in this area results in considerable vegetation on surrounding hills and plateaus, which furnish fine summer grazing for livestock.

No sunshine, wind, or humidity records are available for the area. Somewhat less sunshine can be expected there than in the lower desert regions of the State, but the normal expectation is for between 65 per cent and 70 per cent of all possible sunshine during a normal year. This average holds true through the winter, when there are many clear, sunny days. Relative humidity is somewhat higher because of lower temperatures at this elevation and range from between 65 per cent and 70 per cent in the winter to about 50 per cent during spring, summer, and fall. Because of the cool temperatures, the somewhat higher humidities are never oppressive. The rugged terrain makes impracticable any attempt to estimate wind velocities from records at other locations in the State. However, to the north and east the valley is well protected from the cold arctic winds of winter, and most of the higher winds of late winter and spring seem to blow from a southerly direction. The growing season is rather short, averaging a little over three months from the average date (June 7) of the last freezing temperature in the spring to the average date (September 24) of the first freeze in the fall. However, some garden truck and grains are produced in the area.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1925	17.8	23.4	31.1	40.5	50.5	56.8	64.0	57.8	55.0	42.4	29.3	21.0	40.8
1926	18.0	26.6	29.0	35.5	44.5	56.8	61.5	61.3	56.2	46.4	31.8	21.6	40.8
1927	26.7	25.2	28.6	39.9	49.9	56.5	61.6	58.4	52.2	44.9	36.2	19.1	41.6
1928	22.2	23.3	32.8	36.2	48.0	55.0	60.2	58.5	54.4	45.3	34.5	19.0	40.8
1929	17.1	16.8	24.8	36.8	45.7	55.4	63.0	57.5	51.8	44.6	27.8	27.4	39.1
1930	15.4	29.2	25.4	43.2	41.8	57.6	59.8	59.6	52.6	43.6	30.6	19.3	39.8
1931	20.4	27.0	27.4	39.7	45.6	58.0	63.0	59.4	54.4	44.9	27.4	16.4	40.3
1932	10.6	27.8	26.6	38.6	45.9	53.8	62.8	60.4	54.6	43.3	32.9	17.6	39.6
1933	16.9	13.8	28.7	32.8	43.2	58.7	66.1	64.1	58.4	49.0	40.0	31.0	41.9
1934	25.8	34.6	39.8	46.3	55.4	58.4	66.0	67.0	55.6	49.8	37.0	27.8	47.0
1935	27.5	30.2	30.8	40.0	45.6	58.6	64.7	63.9	58.4	46.2	33.8	25.0	43.7
1936	22.0	24.1	32.9	41.9	51.5	62.0	64.6	63.4	55.1	46.1	36.8	25.7	43.8
1937	11.8	20.4	29.4	39.9	52.1	57.4	63.9	66.6	60.2	50.2	35.6	27.0	42.9
1938	23.3	25.8	32.8	40.8	47.8	58.8	62.3	64.0	56.6	46.6	27.7	25.3	42.6
1939	20.8	13.8	30.8	41.5	50.2	56.3	63.0	62.1	56.7	45.8	36.6	31.9	42.5
1940	22.5	22.5	32.4	41.4	50.7	59.1	65.0	62.2	55.2	45.5	33.2	28.6	43.2
1941	22.6	30.3	32.2	36.0	48.9	53.4	61.6	61.8	54.7	45.2	35.2	28.9	42.6
1942	22.3	22.1	26.0	41.8	47.8	57.0	64.6	62.6	55.6	46.4	36.4	25.9	42.4
1943	24.3	28.5	31.4	47.7	49.9	57.6	64.8	64.2	57.3	46.0	36.7	26.8	44.6
1944	23.2	27.0	27.8	37.0	48.6	56.6	63.4	63.6	57.2	48.6	33.4	25.8	42.6
1945	21.8	27.8	30.3	37.7	50.4	54.8	64.3	65.2	55.6	47.2	32.5	15.9	42.0
1947	20.6	27.4	31.6	40.7	50.3	55.2	65.8	63.0	59.0	48.3	28.4	23.6	42.8
1948	23.8	24.8	24.6	41.9	51.7	57.5	66.0	64.9	59.6	45.9	28.7	22.7	42.7
1951	22.2	24.9	31.3	40.9	50.5	57.6	66.6	63.1	56.9	44.8	29.8	20.4	42.4
1952	23.1	21.8	26.3	43.1	50.4	59.8	63.9	63.9	57.8	49.6	29.5	21.1	42.4
1954	25.2	31.6	31.7	46.2	51.5	59.5	65.2	63.3	57.3	49.2	37.7	28.0	45.5
1957	26.6	34.8	31.6	38.7	45.1	58.9	65.1	62.1	55.5	45.2	27.6	26.1	43.1
1958	23.5	28.7	28.3	38.9	54.2	61.8	64.9	65.3	57.4	47.5	35.3	31.7	44.8
1959	25.9	24.7	31.5	41.8	51.9	61.4	65.1	63.6	56.4	45.3	34.8	30.2	44.4
1960	19.0	19.7	32.0	42.6	49.0	60.8	64.6	64.0	59.1	45.5	36.2	24.0	43.0

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1925	.26	.85	2.85	.15	1.30	1.30	5.05	3.65	1.22	2.73	.82	1.73	21.91
1926	.42	.97	1.77	3.16	2.34	.40	2.86	2.52	2.02	.93	1.26	1.40	20.05
1927	.74	5.60	2.55	.65	.20	3.69	2.55	3.80	6.20	.79	.20	2.52	29.49
1928	.07	.53	1.05	.49	2.35	.05	2.00	1.10	.55	1.33	.82	.98	11.32
1929	1.84	2.57	1.33	1.50	1.36	0	5.78	5.38	4.08	.89	.42	.10	25.25
1930	2.74	.15	1.39	.93	.91	.50	4.59	2.93	.95	.90	1.55	.12	17.66
1931	.38	1.62	2.07	1.54	1.68	.71	2.28	2.72	3.55	3.20	4.13	3.36	27.24
1932	1.40	4.60	1.03	.81	.85	.67	1.90	4.03	.50	1.02	0	1.84	18.65
1933	2.05	1.57	.07	1.08	.55	2.90	1.20	1.50	3.70	1.30	.75	.55	17.22
1934	.26	2.05	0	.10	2.58	.87	1.80	1.72	2.20	.10	1.26	1.71	17.16
1935	2.75	1.55	2.45	1.95	2.91	.30	.87	2.54	3.95	1.45	.75	.90	22.25
1936	1.15	4.20	2.24	.60	.93	.10	3.48	4.40	3.25	1.15	.70	1.56	23.76
1937	1.89	4.75	2.33	.68	1.80	1.20	1.40	1.27	1.48	1.40	.60	1.69	20.49
1938	2.90	2.32	2.10	.45	1.48	1.25	1.31	2.42	3.58	1.50	.70	1.40	21.41
1939	2.25	1.57	.95	.96	T	.25	2.10	1.13	3.20	.90	.25	.90	14.46
1940	2.75	2.75	.83	.50	1.31	.82	2.46	2.50	1.16	1.37	1.71	4.83	22.99
1941	2.22	1.11	3.53	3.24	1.70	1.48	.86	1.63	4.80	5.91	.25	4.22	30.95
1942	.74	1.80	2.62	5.08	.64	1.62	.10	1.05	2.93	1.57	.20	3.30	21.65
1943	2.97	1.18	1.67	.70	1.16	3.05	.97	4.47	1.20	.96	.53	1.39	20.25
1944	1.78	2.24	2.93	1.80	1.10	0	1.73	2.35	.87	1.32	1.50	1.75	19.37
1945	1.40	.62	2.22	1.08	.25	0	1.45	2.20	1.00	1.58	.25	1.40	13.45
1947	1.35	1.40	T	.87	3.24	1.05	1.23	3.95	3.10	1.82	1.10	1.72	20.83
1948	.90	2.61	2.05	.50	4.08	2.55	.70	1.15	.12	2.33	.74	1.45	19.18
1951	2.12	.39	.85	1.55	.78	T	.99	2.17	.24	1.20	1.47	5.98	17.74
1952	4.31	.55	.80	2.31	1.01	.87	1.36	2.64	.83	0	2.32	.61	17.61
1954	1.08	.25	2.69	.26	2.27	.32	2.37	2.33	2.28	.30	.47	.21	14.83
1957	6.63	1.46	2.08	2.48	3.55	1.21	2.21	5.10	0	3.29	2.29	1.08	31.38
1958	1.11	1.75	2.80	1.60	1.05	.20	1.03	3.80	2.01	1.89	1.41	T	18.65
1959	.45	1.75	.22	2.20	.57	.24	.75	3.50	2.39	3.93	.52	2.27	18.79
1960	1.69	2.26	1.58	1.23	1.10	1.07	1.34	.83	.55	1.73	.82	1.05	15.25

STATION HISTORY

Climatological records began in Chama on July 1, 1889, with the equipment located near the Post Office. Until April 1897, observations were made by E. A. Sutherland. After a break of several years the station was reactivated in May 1905, with George Huth, F. C. Johnson, and Kenneth Heron continuing the record until December 1919. In October 1920 Mrs. Grace Hilton took over the station, operating it until April 1949. From August 1949 until June 1957 the following observers maintained records: Leo L. Smith, Frank Gutierrez, Jane C. Reeves, J. C. Higgins, Frank A. Abeyta, Pete N. Abeyta, and Mrs. Elizabeth F. Niner. During this period the instruments were exposed at various sites in the city, except from July 1952 until February 1957 when they were located about one mile south of the Post Office. In June 1957 the station was returned to a site near the Post Office, where Chester E. Haley, postmaster, has continued the records. There was no significant change in exposure or elevation during the period of record.