WBO.,S.F.—1-5-39—1,200

U. S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU

ANNUAL METEOROLOGICAL SUMMARY

WITH COMPARATIVE DATA

1938

San Francisco, California

Compiled by
E. H. BOWIE

SAN FRANCISCO, CALIF.
1939

MISCELLANEOUS DATA FOR 1938

Location of Office, Federal Office Building, 50 Fulton Street
Latitude 37° 47′ North. Longitude 122° 25′ West
Standard of time in local use is 120th M.; local mean time is 10 minutes slower

Barometric Pressure (Sea Level)

[*Elevation of barometers above sea level, 123 feet: above ground, 71 feet*

Mean, 30.020 inches; highest, 30.54 inches on January 25
lowest, 29.25 inches on February 9

Temperature

[*Elevation of thermometers above ground, 112 feet*]

Greatest daily range, 35°; from 89° to 54°, on September 9
Least daily range, 3°; from 54° to 51°, on June 10
Greatest monthly range, 38°, in September
Least monthly range, 22°, in June

Precipitation

[*Elevation of rain gage above ground, 104 feet*]

Longest period without .01 or more precipitation, 86 days, July 3 to September 26, inclusive.
Longest period with .01 or more precipitation, 19 days, January 27 to February 14, inclusive.

Greatest fall in 5 minutes, .21, date, February 13; 10 minutes, .29, date, February 13; 15 minutes, .33, date, February 13; 30 minutes, .37, date, February 13; one hour, .51, date, October 2.
Snow, none

Wind

[*Elevation of anemometer above ground, 132 feet*]

West wind prevailed for total of 4,302 hours during the year, or 49 per cent of the time

EXTREMES OF PRECIPITATION AND WINDS

Jan. 1, 1871 to Dec. 31, 1938

MONTH	Precipitation			§Wind			
	24-hr. max.	Year	Day	Max. vel.	Direction	Year	Day
January	4.67	1881	29	45	se.	1901	3
February	3.60	1887	4-5	41	s.	1917	24
March	3.31	1879	4-5	47	s.	1902	1
April	2.43	1896	23-24	38	nw.	1871	23
May	1.42	†1906	27-28	36	w.	1897	11
June	1.23	1884	11-12	38	sw.	1873	30
July	0.23	1886	16	33	w.	‡1898	15
August	0.25	1935	26	34	sw.	1893	2
September	3.58	1904	23-24	37	n.	1923	17
October	2.03	1889	17-18	35	ne.	1906	20
November	3.98	1874	23	50	ne.	1906	30
December	3.44	1924	20-21	50	ne.	1923	1

§True values. †Also 1925, 11-12. ‡Also, 1899.

TEMPERATURE EXTREMES

Mar. 1, 1871 to Dec. 31, 1938

MONTH	Maximum	Year	Day	Minimum	Year	Day
January	78	1899	26	29	1888	15
February	80	1899	18	33	1887	5
March	86	1914	18	33	1896	3
April	89	1926	25	40	1891	7
May	97	1887	28	42	1906	16
June	100	1891	29	46	1908	4
July	99	1931	3	47	1893	31
August	92	1891	22	46	1903	8
September	*101	1913	16	47	1900	30
October	96	1917	3	43	1935	31
November	83	1895	16	38	1919	27
December	74	1929	5	27	1932	11

*101.0° in 1904; 101.2° in 1913.

EXTREME TEMPERATURES BY YEARS

Year	Absolute Maximum	Date	Absolute Minimum	Date
1871	84	October	...	.....
1872	92	June	41	December
1873	79	October	40	February
1874	89	September 14	39	January
1875	82	September 20	39	January 16 †
1876	93	June 12	36	January 21
1877	92	June 11†	42	January 13 †
1878	78	May 24†	39	January 4
1879	89	August 30	34	December 24
1880	84	May 27	37	January 28
1881	83	July 4	40	March 13 †
1882	83	September 21	34	December 31
1883	95	June 5 †	35	February 3 †
1884	83	July 10	35	February 7
1885	87	September 21	43	January 3
1886	94	September 8	41	January 2 †
1887	97	May 28	33	February 5
1888	93	July 15	29	January 15
1889	89	September 24	39	February 15 †
1890	86	October 27 †	36	January 5 †
1891	100	June 29	37	December 25
1892	92	August 17	38	December 10
1893	90	June 3	36	January 24
1894	94	September 22	36	January 6
1895	89	May 11 †	38	January 27
1896	91	May 26	33	March 3
1897	92	September 16	38	February 20
1898	89	June 4	36	January 25
1899	94	October 8	34	February 4
1900	92	September 21	40	December 31
1901	91	October 12	37	January 1
1902	83	September 29	38	January 14
1903	96	June 6	37	January 15 †
1904	101	September 8	38	December 20
1905	98	July 7	39	December 31
1906	86	October 5	40	November 29 †
1907	90	October 4	36	January 13
1908	89	September 29	35	December 20
1909	94	June 23	38	January 12 †
1910	90	May 30	36	January 12
1911	87	October 16	38	February 27
1912	94	September 18	40	January 3
1913	101	September 16	33	January 6
1914	92	September 10	41	December 15
1915	86	August 28	36	December 30
1916	87	September 27	37	January 27
1917	96	October 3	34	January 16
1918	85	October 12	38	December 31
1919	93	September 19	37	January 1
1920	92	June 19	38	January 14
1921	94	July 6	39	January 8
1922	91	September 8	32	January 19
1923	87	September 5	36	January 30
1924	88	September 11 †	36	December 18 †
1925	95	June 24	40	January 9†
1926	89	April 25	36	January 11
1927	93	June 30	40	April 10
1928	99	September 21	36	December 23 †
1929	95	June 21	35	February 7
1930	92	October 6	37	January 11
1931	99	July 3	39	November 23
1932	100	September 9	27	December 11
1933	92	October 5	36	January 10
1934	95	June 29	40	January 10
1935	89	September 17	39	January 20
1936	91	September 7	40	February 3†
1937	89	September 25	30	January 21
1938	89	September 9	40	January 7

† Also on other dates

COMPARATIVE DATA AND EXTREMES

Month	Temperature							Precipitation						Relative humidity, per cent			Sunshine		Wind (True Values)					Average number of days									
	Average daily maximum	Average daily minimum	Average	Absolute highest	Year	Absolute lowest	Year	Average total	Greatest in 24 hours	Year	Average snowfall	Greatest snowfall in 24 hours	Year	5 a. m.	Noon—local time	5 p. m.	Total hours	Per cent	Average hourly velocity	Prevailing direction	Highest velocity	Direction highest velocity	Year	Clear	Partly cloudy	Cloudy	Rain, .01 or more	Snow (trace or more)	Thunderstorms	Dense fog	Max. temp. 90° or above	Minimum temp. 32° or below	Minimum temp. 0° or below
L'gth of record, years.	64	64	68	68	68	68	68	89	68	68	68	68	68	48	21	48	48	48	49	49	68	68	68	54	54	54	68	68	48	48	68	68	68
Jan.....	55.0	44.7	49.9	78	1899	29	1888	4.70	4.67	1881	T.	0.1	1888	85	68	71	162	53	7.6	n.	45	se.	1901	11	8	12	11	‡	‡	3	0	‡	0
Feb.....	58.4	47.0	52.7	80	1899	33	1887	3.75	3.60	1887	0.1	3.7	1887	84	66	68	173	57	7.8	w.	41	s.	1917	10	8	10	11	‡	‡	2	0	0	0
March...	60.7	48.2	54.3	86	1914	33	*1896	3.06	3.31	1879	T.	1.0	1896	83	60	66	235	63	8.7	w.	47	s.	1902	12	10	9	10	‡	‡	1	0	0	0
April	62.2	49.3	55.7	89	1926	40	1891	1.52	2.43	1896	0.0	0.0	....	83	60	66	280	71	9.7	w.	38	nw.	1871	14	10	6	6	0	‡	‡	0	0	0
May	63.4	50.6	57.0	97	1887	42	*1906	0.67	1.42	*1906	0.0	0.0	....	85	62	69	312	71	10.6	w.	36	w.	1897	15	10	6	4	0	‡	‡	‡	0	0
June.....	65.6	52.2	58.9	100	1891	46	1908	0.16	1.23	1884	0.0	0.0	....	88	64	70	334	75	11.2	w.	38	sw.	1873	17	9	4	2	0	‡	1	‡	0	0
July	65.1	52.8	58.8	99	1931	47	1893	0.01	0.23	1886	0.0	0.0	....	91	69	74	311	69	11.5	sw.	33	w.	*1898	15	12	4	‡	0	‡	1	‡	0	0
August ..	65.3	53.3	59.3	92	1891	46	1903	0.02	0.25	1935	0.0	0.0	....	92	70	77	267	63	10.9	sw.	34	sw.	1893	13	13	5	‡	0	‡	2	‡	0	0
Sept.....	68.3	54.6	61.4	*101	1913	47	1900	0.29	3.58	1904	0.0	0.0	....	88	63	70	261	70	9.4	w.	37	n.	1923	16	10	4	2	0	‡	1	1	0	0
October..	67.8	53.7	60.7	96	1917	43	1935	0.97	2.03	1889	0.0	0.0	....	85	58	67	243	70	7.9	w.	35	ne.	1906	16	9	6	4	0	‡	2	‡	0	0
Nov.....	62.8	50.6	56.7	83	1895	38	1919	2.43	3.98	1874	0.0	0.0	....	83	59	66	190	63	7.1	w.	50	ne.	1906	14	9	7	7	0	‡	3	0	0	0
Dec.....	56.2	46.3	51.3	74	1929	27	1932	4.39	3.44	1924	0.1	3.5	1882	83	68	70	166	56	7.3	n.	50	ne.	1923	11	9	11	10	‡	‡	2	0	‡	0
Year....	62.6	50.3	56.4	101	Sept. 1913	27	Dec. 1932	21.97	4.67	Jan. 1881	0.2	3.7	Feb. 1887	86	64	70	2,935	66	9.1	w.	50	ne.	1906 1923	164	117	84	67	‡	2	18	1	‡	0

‡Less than one-half. *And other years.

Annual Meteorological Summary

SAN FRANCISCO, CAL., YEAR 1938

MONTH	TEMPERATURE (Degrees Fahrenheit)							Relative humidity (per-cent)	PRECIPITATION (In. and hundredths)				Percentage of sunshine	WIND (True Values)					NUMBER OF DAYS WITH—											
	MEAN			EXTREMES												MAXIMUM (For 5 Minutes)											MAX. TEMP.		MIN. TEMP.	
	Maximum	Minimum	Monthly	Maximum	Date	Minimum	Date		Total	Maximum in 24 hrs.	Date	Snowfall		Average hourly velocity	Prevailing direction	Velocity	Direction	Date	Gales (32 miles per hour or over)	Clear	Partly cloudy	Cloudy	Precipitation (0.01 inch or over)	Thunderstorms	Fog, dense	Snow (0.1 in. or over)	32° or below	90° or above	32° or below	0° or below
January	56.7	46.2	51.4	66	26	40	7	77	2.65	0.75	18-19	0	58	7.0	n.	26	se.	16	0	10	11	10	12	0	3	0	0	0	0	0
February	58.9	47.2	53.0	71	23	42	16	74	8.49	1.57	13-14	0	44	8.2	e.	38	sw.	9	1	4	8	16	16	2	2	0	0	0	0	0
March	57.6	48.1	52.8	70	26	43	21	70	5.73	0.96	1-2	0	50	9.4	w.	26	sw.	12	0	6	9	16	18	0	0	0	0	0	0	0
April	60.3	49.5	54.9	75	18	46	1	77	1.52	0.84	4	0	55	9.3	w.	26	w.	10	0	4	13	13	5	0	1	0	0	0	0	0
May	62.6	50.6	56.6	77	31	48	3	79	T.	T.	1, 27	0	66	9.9	w.	28	w.	1	0	11	13	7	0	0	0	0	0	0	0	0
June	63.2	51.8	57.5	72	14	50	24	80	0	0	.....	0	58	10.7	w.	26	w.	23	0	12	12	6	0	0	0	0	0	0	0	0
July	63.3	54.4	58.8	74	31	51	6	85	0.01	0.01	2	0	53	11.0	w.	26	w.	9	0	7	15	9	1	0	0	0	0	0	0	0
August	65.7	54.5	60.1	78	2	52	10	79	0	0	.....	0	63	10.2	w.	26	w.	24	0	13	14	4	0	0	0	0	0	0	0	0
September	68.0	54.3	61.2	89	9	51	22	83	0.15	0.15	27	0	60	9.0	w.	27	w.	3	0	8	19	3	1	0	0	0	0	0	0	0
October	68.0	55.2	61.6	81	25	50	16	74	1.33	0.74	2	0	69	7.3	w.	28	w.	14	0	10	12	9	5	0	0	0	0	0	0	0
November	63.7	49.9	56.8	73	18	44	13	60	0.88	0.50	28-29	0	82	6.1	w.	21	se.	28	0	18	9	3	5	0	0	0	0	0	0	0
December	59.0	48.2	53.6	67	7	43	31	76	1.48	0.70	2-3	0	56	5.7	n.	20	w.	21	0	8	12	11	5	0	3	0	0	0	0	0
Year	62.2	50.8	56.5	89	Sept. 9	40	Jan. 7	76	22.24	1.57	Feb. 13-14	0	59	8.7	w.	38	sw.	Feb. 9	1	111	147	107	68	2	9	0	0	0	0	0

PRECIPITATION

Monthly, Seasonal and Annual, 1849–1938

Season	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Seasonal	Year	Annual
1849-50..	0.00	0.00	0.00	3.14	8.66	6.20	8.34	1.77	4.53	0.46	0.00	0.00	33.10	1850	17.40
1850-51..	0.00	0.00	0.33	0.00	0.92	1.05	0.72	0.54	1.94	1.23	0.67	0.02	**7.42**	1851	15.60
1851-52..	0.00	0.02	1.03	0.21	2.12	7.10	0.58	0.14	6.68	0.26	0.32	0.00	18.46	1852	27.29
1852-53..	0.00	0.00	0.00	0.80	5.31	13.20	3.92	1.42	4.86	5.37	0.38	0.00	35.26	1853	21.17
1853-54..	0.00	0.04	0.46	0.12	2.28	2.32	3.88	8.04	3.51	3.12	0.02	0.08	23.87	1854	22.45
1854-55..	0.00	0.01	0.15	2.43	0.34	0.87	3.67	4.77	4.64	4.99	1.88	0.00	23.76	1855	26.38
1855-56..	0.00	0.00	0.00	0.00	0.67	5.76	9.40	0.50	1.60	2.94	0.76	0.03	21.66	1856	22.31
1856-57..	0.02	0.00	0.07	0.45	2.79	3.75	2.45	8.59	1.62	0.00	0.05	0.12	19.91	1857	20.96
1857-58.	0.00	0.05	0.00	0.93	3.01	4.14	4.36	1.83	5.55	1.55	0.34	0.05	21.81	1858	23.46
1858-59..	0.05	0.16	0.00	2.74	0.69	6.14	1.28	6.32	3.02	0.27	1.55	0.00	22.22	1859	21.39
1859-60..	0.00	0.02	0.03	0.05	7.28	1.57	1.64	1.60	3.99	3.14	2.86	0.09	22.27	1860	21.18
1860-61..	0.21	0.00	0.00	0.91	0.58	6.16	2.47	3.72	4.08	0.51	1.00	0.08	19.72	1861	25.52
1861-62..	0.00	0.00	0.02	0.00	4.10	9.54	**24.36**	7.53	2.20	0.73	0.74	0.05	**49.27**	1862	38.63
1862-63..	0.00	0.00	0.00	0.52	0.15	2.35	3.63	3.19	2.06	1.61	0.23	0.00	13.74	1863	15.10
1863-64..	0.00	0.00	0.03	0.00	2.55	1.80	1.83	**0.00**	1.52	1.57	0.78	0.00	10.08	1864	21.64
1864-65..	0.00	0.21	0.01	0.13	6.68	8.91	5.14	1.34	0.74	0.94	0.63	0.00	24.73	1865	14.06
1865-66..	0.00	0.00	0.24	0.26	4.19	0.58	10.88	2.12	3.04	0.12	1.46	0.04	22.93	1866	36.28
1866-67..	0.00	0.00	0.11	0.00	3.35	**15.16**	5.16	7.20	1.58	2.36	0.00	0.00	34.92	1867	30.64
1867-68..	0.00	0.00	0.04	0.20	3.41	10.69	9.50	6.13	6.30	2.31	0.03	0.23	38.84	1868	30.17
1868-69..	0.00	0.00	0.00	0.15	1.18	4.34	6.35	3.90	3.14	2.19	0.08	0.02	21.35	1869	22.59
1869-70..	0.00	0.00	0.12	1.29	1.19	4.31	3.89	4.78	2.00	1.53	0.20	0.00	19.31	1870	16.24
1870-71..	0.00	0.00	0.03	0.00	0.43	3.38	3.07	3.76	1.31	1.89	0.23	0.01	14.11	1871	27.53
1871-72..	0.00	0.02	0.00	0.07	2.81	14.36	4.00	6.90	1.50	0.81	0.18	0.01	30.78	1872	22.42
1872-73..	0.01	0.00	0.04	0.11	2.79	5.95	1.58	3.94	0.79	0.43	0.00	0.02	15.66	1873	18.56
1873-74..	0.01	0.08	0.00	0.83	1.16	9.72	5.66	2.21	3.36	0.90	0.66	0.14	21.73	1874	22.52
1874-75..	0.00	0.00	0.02	2.69	6.55	0.33	8.01	0.32	1.30	0.10	0.22	1.02	20.56	1875	22.63
1875-76..	0.00	0.00	0.00	0.24	7.27	4.15	7.55	4.92	5.49	1.29	0.24	0.04	31.19	1876	23.54
1876-77..	0.01	0.01	0.38	3.36	0.25	**0.00**	4.32	1.18	1.08	0.26	0.18	0.01	11.04	1877	11.93
1877-78..	0.02	0.00	0.00	0.65	1.57	2.66	11.97	**12.52**	4.56	1.06	0.16	0.01	35.18	1878	33.26
1878-79..	0.01	T.	0.55	1.27	0.57	0.58	3.52	4.90	**8.75**	1.89	2.35	0.05	24.44	1879	30.76
1879-80..	0.01	0.02	T.	0.78	4.03	4.46	2.23	1.87	2.08	**10.06**	1.12	0.00	26.66	1880	30.07
1880-81..	0.00	0.00	0.00	0.05	0.33	12.33	8.69	4.65	0.90	2.00	0.22	0.69	29.36	1881	23.73
1881-82..	0.00	0.00	0.25	0.54	1.94	3.85	1.68	2.96	3.45	1.22	0.21	0.04	16.14	1882	18.67
1882-83..	0.00	0.00	0.26	2.66	4.18	2.01	1.92	1.04	3.01	1.51	3.52	0.01	20.12	1883	15.43
1883-84..	0.00	0.00	0.42	1.48	1.60	0.92	3.94	6.65	8.24	6.33	0.23	**2.57**	32.38	1884	**38.82**
1884-85..	T.	0.04	0.33	2.55	0.26	7.68	2.53	0.30	1.01	3.17	0.04	0.19	18.10	1885	24.90
1885-86..	0.06	T.	0.11	0.72	**11.78**	4.99	7.42	0.24	2.07	5.28	0.37	0.01	33.05	1886	20.02
1886-87..	**0.23**	T.	0.01	1.48	0.84	2.07	1.90	9.24	0.84	2.30	0.06	0.07	19.04	1887	19.04
1887-88..	T.	0.01	0.29	T.	0.99	3.34	6.81	0.94	3.60	0.11	0.38	0.27	16.74	1888	23.03
1888-89..	0.01	0.01	0.98	0.13	3.99	5.80	1.28	0.72	7.78	0.96	2.17	0.03	23.86	1889	36.94
1889-90..	0.01	T.	T.	**7.28**	2.90	13.81	9.61	5.16	4.73	1.18	1.07	0.10	45.85	1890	25.43
1890-91..	0.02	0.00	0.31	0.00	0.00	3.25	0.98	7.26	1.96	2.44	1.25	0.11	17.58	1891	21.11
1891-92..	0.10	0.02	0.77	0.04	0.56	5.62	2.42	2.90	2.85	1.39	1.86	T.	18.53	1892	22.08
1892-93..	0.00	0.00	0.02	1.65	3.91	5.08	3.05	2.75	4.08	1.03	0.15	0.03	21.75	1893	17.91
1893-94..	0.02	0.00	0.21	0.16	4.18	2.25	5.99	2.69	0.60	0.50	1.31	0.56	18.47	1894	24.32
1894-95..	T.	0.00	1.05	1.73	0.88	9.01	6.99	2.31	1.89	1.24	0.60	0.06	25.70	1895	17.13
1895-96..	0.01	0.00	0.77	0.11	1.78	1.43	8.14	0.28	2.85	5.16	0.72	0.00	21.25	1896	28.25
1896-97..	0.04	0.09	0.52	1.55	4.56	4.34	2.26	4.41	4.56	0.27	0.61	0.22	23.43	1897	16.40
1897-98..	T.	T.	0.10	1.70	1.05	1.22	1.12	2.13	0.24	0.19	1.44	0.19	9.38	1898	9.31
1898-99..	0.00	T.	1.06	0.86	0.46	1.62	3.67	0.10	7.61	0.62	0.86	0.01	16.87	1899	23.23
1899-1900	0.00	T.	0.00	3.92	3.79	2.65	4.11	0.64	1.91	1.08	0.32	0.05	18.47	1900	15.33
1900-01..	T.	T.	0.46	1.48	3.91	1.37	5.79	5.03	0.80	1.64	0.69	T.	21.17	1901	19.75
1901-02..	T.	T.	0.78	0.64	3.48	0.90	1.23	7.27	2.65	0.98	1.05	T.	18.98	1902	19.18
1902-03..	T.	T.	T.	1.70	1.98	2.32	3.73	1.76	6.23	0.56	T.	T.	18.28	1903	18.33
1903-04..	0.00	T.	T.	0.17	4.25	1.63	1.05	5.89	6.01	1.29	0.30	T.	20.59	1904	24.72
1904-05..	0.02	0.06	**5.07**	2.37	1.07	1.59	4.04	2.70	3.15	1.33	2.05	0.00	23.45	1905	16.24
1905-06..	0.00	T.	T.	T.	0.92	2.05	3.90	4.30	5.02	0.92	2.75	0.56	20.42	1906	26.34
1906-07..	0.08	0.11	0.18	0.03	1.59	6.90	4.41	3.02	8.42	0.11	0.04	1.28	26.17	1907	22.47
1907-08..	T.	0.02	0.11	1.36	0.04	3.66	4.88	5.39	0.90	0.22	0.76	0.01	17.35	1908	16.42
1908-09..	0.02	0.01	0.13	0.61	1.34	2.15	10.51	7.53	3.27	T.	T.	T.	25.57	1909	31.36
1909-10..	T.	0.00	0.80	1.23	2.43	5.59	3.24	2.09	3.78	0.31	0.03	0.02	19.52	1910	12.38
1910-11..	T.	0.00	0.05	0.65	0.48	1.73	13.79	3.02	4.57	0.89	0.28	0.03	25.49	1911	26.00
1911-12..	T.	0.00	T.	0.28	0.60	2.54	2.47	0.41	4.10	1.38	1.47	0.81	14.06	1912	15.62
1912-13..	T.	0.00	1.25	0.49	1.94	1.30	3.84	0.43	1.47	0.60	0.63	0.02	11.97	1913	19.05
1913-14..	0.07	0.01	0.00	0.35	6.22	5.41	9.76	5.04	1.09	0.99	0.37	0.29	29.60	1914	24.04
1914-15..	0.02	0.00	T.	0.29	0.70	5.49	6.74	7.36	3.02	0.62	3.17	0.00	27.41	1915	28.27
1915-16..	0.01	0.00	0.00	0.01	0.92	6.42	14.59	3.77	1.33	0.00	0.07	T.	27.12	1916	28.09
1916-17..	0.03	**0.29**	1.20	0.52	1.50	4.79	1.83	3.81	1.42	0.33	0.06	T.	15.78	1917	**9.00**
1917-18..	T.	T.	0.02	0.00	0.81	0.72	0.81	5.79	2.73	0.60	T.	T.	11.48	1918	20.85
1918-19..	T.	0.00	2.53	0.17	5.60	2.62	2.57	9.31	2.74	0.10	T.	T.	25.64	1919	19.04
1919-20..	0.01	T.	0.39	0.27	0.44	3.21	**0.26**	1.23	3.25	1.36	T.	0.04	10.46	1920	18.28
1920-21..	T.	0.00	0.13	1.83	2.70	7.48	6.30	1.38	2.28	0.54	0.52	T.	23.16	1921	19.71
1921-22..	0.00	0.00	0.35	0.52	1.43	6.39	2.41	5.15	2.38	0.47	0.55	0.26	19.81	1922	25.71
1922-23..	T.	T.	T.	2.95	3.77	7.77	2.84	0.77	**0.03**	3.92	0.06	0.06	22.17	1923	10.99
1923-24..	0.00	0.01	0.44	0.46	0.49	1.91	2.75	3.30	1.96	0.30	T.	0.00	11.62	1924	20.17
1924-25..	0.00	0.01	T.	2.98	1.50	7.37	1.62	7.90	2.63	2.73	**4.02**	0.05	30.81	1925	23.10
1925-26..	0.06	T.	0.45	0.31	2.32	1.01	5.48	5.40	0.25	5.26	0.15	T.	20.69	1926	26.73
1926-27..	0	0.04	T.	1.90	7.21	1.04	3.77	6.85	2.19	1.95	0.10	0.38	25.43	1927	24.29
1927-28..	T.	T.	T.	1.93	3.18	3.94	2.40	1.97	4.65	1.31	0.26	T.	19.64	1928	18.99
1928-29..	T.	T.	0.03	0.13	3.35	4.89	1.32	2.14	1.56	1.01	0.01	0.86	15.30	1929	10.00
1929-30..	T.	0	T.	0.01	0.00	3.09	4.99	2.94	3.53	1.56	0.16	T.	16.28	1930	16.71
1930-31..	0	0	0.10	0.89	1.56	0.98	5.50	1.10	1.68	0.31	1.19	0.32	13.54	1931	22.86
1931-32..	T.	0	T.	0.68	2.93	9.24	3.23	3.00	0.86	0.47	0.65	0.03	21.09	1932	12.00
1932-33..	T.	0	0	0.01	1.00	2.75	5.68	1.13	2.93	0.06	1.36	0.01	14.93	1933	16.99
1933-34..	0	T.	0.14	1.49	0.00	4.19	1.03	4.68	0.07	0.51	0.12	0.68	12.91	1934	15.93
1934-35..	0.01	T.	0.13	0.88	3.76	4.06	6.23	2.38	2.31	3.45	0.01	T.	23.22	1935	20.64

Continued on next page

PRECIPITATION—Continued

Monthly, Seasonal and Annual, 1849–1938

Season	July	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	March	April	May	June	Seasonal	Year	Annual
1935–36..	T.	0.25	0.08	1.44	1.24	3.25	5.77	10.06	1.01	1.09	0.49	0.28	24.96	1936	22.39
1936–37..	0.03	0.02	T.	0.69	0.01	2.94	5.26	4.88	7.05	0.86	0.06	0.59	22.39	1937	25.79
1937–38..	T.	T.	T.	0.90	2.46	3.73	2.65	8.49	5.73	1.52	T.	0	25.48	1938	22.24
1938.....	0.01	0	0.16	1.33	0.88	1.48	.....	....	.....	.....	.....	.....	.....	....	.....
Means..	0.01	0.02	0.29	0.97	2.43	4.39	4.70	3.75	3.06	1.52	0.67	0.16	21.97	....	21.97

MEAN TEMPERATURE

Monthly and Annual, 1871–1938

Year	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1871.....	....	....	51.3	53.3	54.3	56.9	56.6	57.9	60.4	61.8	55.1	52.9	.....
1872.....	52.2	54.2	54.3	53.4	56.0	59.8	57.9	59.8	59.3	58.8	56.0	52.1	56.2
1873.....	54.8	50.9	54.5	54.6	55.4	57.1	58.1	59.5	58.3	59.7	57.7	50.7	55.9
1874.....	49.3	51.2	50.9	54.9	57.6	59.1	57.8	59.0	61.4	59.8	56.1	50.3	55.6
1875.....	49.0	52.0	51.8	55.4	57.2	59.4	58.8	58.8	59.2	62.0	57.4	51.4	56.0
1876.....	48.8	52.8	53.2	55.4	56.8	61.4	59.1	59.6	61.5	59.9	58.0	53.0	56.6
1877.....	54.3	55.8	57.2	54.4	56.2	62.0	60.8	59.8	62.5	59.2	57.2	52.7	57.7
1878.....	52.8	53.3	55.9	56.0	58.0	58.8	58.6	59.1	60.2	61.6	57.1	51.6	56.9
1879.....	48.8	54.6	57.2	56.5	56.4	60.2	58.7	60.5	61.0	61.0	55.0	50.0	56.7
1880.....	48.0	48.8	49.4	53.3	57.7	57.2	58.8	59.1	58.9	59.8	54.2	53.2	54.9
1881.....	54.0	55.3	54.4	57.9	58.0	58.6	59.7	58.8	59.7	56.6	55.1	51.0	56.6
1882.....	49.4	48.8	53.4	53.0	57.0	57.9	59.5	58.6	59.8	58.8	53.2	52.8	55.2
1883.....	47.0	48.8	54.0	53.2	58.0	61.4	59.8	59.2	63.1	57.9	54.1	50.8	55.6
1884.....	50.6	50.8	54.5	56.0	59.4	60.2	61.4	60.0	59.6	58.2	57.4	52.8	56.7
1885.....	51.1	55.3	57.7	58.2	58.1	57.8	61.6	59.6	61.8	60.7	57.8	54.0	57.8
1886.....	51.2	56.8	53.6	55.4	59.1	59.4	60.3	60.6	62.4	58.6	56.8	53.6	57.3
1887.....	52.6	47.8	55.8	55.8	57.0	59.4	56.6	57.8	62.0	64.2	56.4	52.2	56.5
1888.....	46.7	53.9	53.4	57.8	56.9	62.4	61.4	60.8	62.6	61.6	57.0	53.2	57.3
1889.....	50.4	54.0	57.2	58.8	58.8	60.2	58.8	60.4	64.6	61.8	58.6	51.3	57.9
1890.....	46.2	49.1	53.8	54.8	59.8	59.2	59.8	61.4	60.4	62.4	59.0	49.8	56.3
1891.....	52.2	51.2	55.0	53.4	55.7	60.2	59.4	61.8	61.8	59.7	58.6	49.6	56.6
1892.....	51.7	52.4	54.2	53.1	58.0	56.8	58.1	59.4	60.2	59.6	56.9	51.1	56.0
1893.....	47.4	50.3	51.2	52.4	55.8	56.5	56.6	56.6	59.3	57.6	55.6	52.4	54.3
1894.....	47.7	48.4	50.6	55.2	55.4	55.9	56.4	59.2	63.4	59.6	59.4	49.7	55.1
1895.....	48.6	53.8	52.2	54.8	57.6	58.7	58.4	58.4	60.7	58.8	56.2	48.6	55.6
1896.....	52.2	55.3	54.3	51.6	56.3	57.2	59.4	59.5	59.6	58.8	53.4	52.8	55.9
1897.....	48.6	50.7	48.9	57.4	57.4	58.9	58.2	57.4	60.8	58.4	53.1	50.7	55.0
1898.....	46.7	52.6	51.2	54.4	52.6	59.0	56.2	57.0	59.0	61.2	55.4	49.7	54.6
1899.....	53.0	51.6	52.2	54.6	52.6	56.9	55.9	58.3	58.2	59.3	56.8	49.6	55.0
1900.....	50.7	53.6	55.2	54.0	57.0	57.6	58.2	59.7	63.3	58.8	56.3	50.2	56.2
1901.....	49.8	52.2	55.8	51.8	53.9	56.7	55.6	56.4	58.5	61.8	57.2	52.9	55.2
1902.....	46.7	52.9	51.6	54.4	55.5	56.9	59.2	60.6	61.9	59.3	54.8	50.6	55.4
1903.....	47.9	48.9	52.2	54.0	55.2	58.5	57.2	57.6	61.0	62.0	56.6	52.4	55.3
1904.....	50.6	50.8	51.8	56.8	59.0	59.2	57.1	57.1	64.0	62.0	58.0	50.6	56.4
1905.....	51.3	54.0	57.0	56.4	55.5	56.0	59.5	58.4	60.4	60.4	56.2	50.7	56.3
1906.....	51.6	55.2	54.0	56.4	56.2	59.4	57.6	57.9	60.0	61.7	55.4	49.6	56.2
1907.....	47.1	54.9	51.0	56.8	56.4	57.1	58.0	59.3	60.6	60.6	57.8	52.4	56.0
1908.....	50.3	50.9	54.8	56.4	55.4	55.4	57.3	57.4	60.5	58.8	55.4	47.0	55.0
1909.....	51.5	51.3	51.8	56.6	54.5	56.1	57.8	57.4	61.6	59.4	54.8	49.2	55.2
1910.....	46.4	50.4	54.9	57.1	58.7	55.9	56.4	56.5	57.6	61.2	54.8	53.0	55.2
1911.....	51.0	49.3	49.2	53.6	55.6	55.0	56.4	56.5	60.0	60.9	57.3	51.7	55.2
1912.....	51.8	54.6	52.4	52.8	57.2	60.4	57.9	59.9	63.4	60.0	56.6	51.6	56.6
1913.....	47.4	52.4	52.6	55.4	56.6	58.2	60.6	62.1	61.6	61.5	55.2	50.6	56.4
1914.....	51.5	54.0	58.4	58.2	56.2	56.6	57.0	58.2	60.8	62.0	59.0	48.7	56.7
1915.....	50.8	52.8	57.9	57.1	57.6	58.9	60.2	61.3	62.4	61.3	56.1	52.2	57.4
1916.....	47.0	55.8	56.6	57.6	55.8	57.4	60.0	58.5	62.2	56.9	54.4	48.9	55.9
1917.....	47.6	52.0	51.7	55.1	54.0	58.6	59.8	57.6	64.0	62.3	58.7	54.6	56.3
1918.....	52.7	51.8	54.9	57.2	54.6	59.2	58.8	60.9	62.2	64.0	55.6	50.2	56.8
1919.....	51.2	51.6	52.6	56.0	57.2	57.8	57.0	58.4	62.0	60.7	56.0	48.8	55.8
1920.....	52.2	52.8	52.6	54.9	55.8	60.2	57.8	60.1	60.4	60.2	55.4	51.0	56.1
1921.....	49.5	52.9	54.6	55.0	54.4	61.4	59.8	59.6	63.3	61.5	57.8	52.9	56.9
1922.....	46.8	50.2	52.4	53.5	58.0	60.0	60.2	60.4	63.4	60.6	54.3	50.6	55.9
1923.....	48.1	52.2	56.8	56.1	57.2	57.2	60.8	61.7	64.0	62.4	60.8	51.0	57.4
1924.....	50.2	57.0	54.5	57.4	59.1	59.8	59.0	59.1	62.4	59.4	56.7	47.8	56.9
1925.....	51.4	55.2	55.4	57.0	59.0	60.7	61.2	61.2	62.7	62.2	56.6	52.7	57.9
1926.....	48.0	56.0	60.6	61.6	61.0	59.2	61.1	60.8	61.2	63.4	60.9	51.5	58.8
1927.....	51.3	54.0	54.2	55.6	58.2	59.8	58.6	59.8	62.4	62.5	58.1	51.8	57.2
1928.....	50.4	55.1	58.2	57.8	58.9	60.6	58.6	58.4	61.4	59.6	56.4	49.6	57.1
1929.....	47.4	51.8	54.2	53.4	56.5	63.0	61.5	61.1	61.4	63.5	59.7	54.2	57.3
1930.....	49.6	56.5	57.4	59.2	56.1	59.9	58.6	61.5	62.4	63.2	58.0	52.1	57.9
1931.....	52.3	56.7	59.0	59.0	61.8	62.0	62.3	60.4	62.8	59.8	54.4	49.4	58.3
1932.....	49.3	51.4	57.1	56.0	58.4	59.2	59.7	61.0	63.0	62.2	60.6	47.4	57.1
1933.....	47.0	51.2	55.4	55.5	55.2	57.6	59.5	59.8	61.2	62.4	60.0	50.5	56.3
1934.....	51.8	55.6	60.6	59.0	60.6	61.0	60.0	60.9	63.6	61.8	58.5	52.9	58.9
1935.....	50.8	54.1	52.6	53.7	58.7	61.3	60.2	60.0	60.6	61.0	54.8	52.8	57.1
1936.....	53.8	53.4	57.4	58.9	61.5	61.7	59.4	59.3	63.0	62.2	58.0	51.6	58.4
1937.....	43.6	49.9	51.8	54.5	57.2	61.4	59.3	58.9	61.4	63.4	58.2	54.8	56.4
1938.....	51.4	53.0	52.8	54.9	56.6	57.5	58.8	60.1	61.2	61.6	56.8	53.6	56.5
Means.....	49.9	52.7	54.3	55.7	57.0	58.9	58.8	59.3	61.4	60.7	56.7	51.3	56.4

NORMAL DAILY PRECIPITATION

Period 1878-1927, inclusive

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1.	.13	.15	.09	.07	.02	.01	0	0	0	.04	.04	.13
2.....	.13	.16	.10	.07	.02	.01	0	0	0	.04	.05	.14
3.....	.13	.17	.12	.07	.03	.01	0	0	0	.03	.06	.14
4.....	.12	.16	.14	.08	.03	0	0	0	0	.03	.07	.15
5.....	.10	.15	.13	.08	.04	.01	0	0	.01	.03	.07	.14
6.....	.10	.16	.13	.09	.04	.01	0	0	.01	.03	.07	.13
7.....	.09	.14	.13	.09	.03	.01	0	0	.01	.03	.08	.13
8.....	.09	.13	.12	.10	.03	.01	0	0	.01	.04	.08	.13
9.....	.09	.15	.10	.09	.03	.01	.01	0	.01	.03	.08	.12
10.....	.10	.16	.10	.08	.03	.02	0	0	.01	.03	.07	.11
11.....	.11	.15	.11	.07	.03	.02	0	0	.02	.04	.06	.11
12.....	.12	.16	.10	.05	.03	.02	0	0	.02	.04	.05	.10
13.....	.14	.16	.09	.05	.03	.02	0	0	.02	.04	.05	.09
14.....	.17	.16	.10	.04	.03	.01	0	.01	.02	.04	.06	.10
15.....	.18	.14	.10	.05	.03	.01	0	0	.01	.04	.07	.11
16.....	.17	.15	.10	.05	.03	0	.01	0	.01	.04	.08	.11
17.....	.17	.15	.10	.05	.04	0	0	0	0	.03	.09	.12
18.....	.18	.16	.10	.05	.03	0	0	0	0	.03	.10	.13
19.....	.16	.15	.10	.05	.03	0	0	0	.01	.04	.11	.14
20.....	.15	.14	.10	.04	.02	0	0	0	.01	.04	.12	.15
21.....	.16	.14	.10	.04	.02	0	0	0	.02	.04	.11	.16
22.....	.17	.13	.09	.04	.02	0	0	0	.03	.04	.10	.16
23.....	.17	.10	.08	.04	.02	0	0	0	.04	.04	.09	.15
24.....	.18	.10	.08	.03	.01	0	0	0	.04	.04	.09	.14
25.....	.19	.09	.09	.03	.02	0	0	0	.03	.04	.08	.13
26.....	.18	.08	.09	.03	.03	0	0	0	.02	.04	.08	.12
27.....	.18	.08	.09	.02	.02	0	0	0	.02	.04	.07	.12
28.....	.17	.08	.10	.02	.02	0	0	0	.02	.04	.08	.12
29.....	.17	*	.09	.02	.02	0	0	0	.02	.03	.09	.12
30.....	.17	.....	.09	.02	.01	0	0	0	.03	.03	.10	.12
31.....	.17	.....	.08	.....	.01	.....	0	0	.....	.03	.....	.13
Totals ..	4.54	3.85	3.14	1.61	0.80	0.18	0.02	0.01	0.45	1.12	2.35	3.95

Annual 22.02. *Leap years, February 29, .08, total 3.93.
Leap year 22.10

NORMAL DAILY MEAN TEMPERATURE

Period 1875-1921, inclusive

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1.....	50	51	54	55	56	58	59	58	60	61	59	53
2.....	50	51	54	55	56	58	59	58	60	61	59	53
3.....	50	51	54	55	56	58	59	59	60	61	58	53
4.....	50	51	54	55	56	58	59	59	60	61	58	53
5.....	50	51	54	55	56	58	59	59	60	61	58	53
6.....	50	51	54	55	56	58	59	59	60	61	58	53
7.....	50	51	54	55	56	58	59	59	60	61	58	52
8.....	50	52	54	55	56	58	59	59	61	61	58	52
9.....	50	52	54	55	56	58	59	59	61	61	58	52
10.....	50	52	54	55	56	58	59	59	61	61	57	52
11..... ..	50	52	54	55	56	58	58	59	61	61	57	52
12.....	50	52	54	55	56	58	58	59	61	61	57	52
13.....	50	52	54	55	56	58	58	59	61	61	57	52
14.....	50	52	54	55	57	59	58	59	61	61	57	51
15.....	50	52	54	55	57	59	58	59	61	61	56	51
16.....	50	52	54	55	57	59	58	59	61	61	56	51
17.....	50	52	54	55	57	59	58	59	61	61	56	51
18.....	50	53	54	55	57	59	58	59	61	60	56	51
19.....	50	53	54	55	57	59	58	59	61	60	56	51
20.....	50	53	54	55	57	59	58	59	61	60	55	51
21.....	50	53	54	55	57	59	58	59	61	60	55	50
22.....	50	53	54	55	57	59	58	59	61	60	55	50
23.....	50	53	54	55	57	59	58	60	61	60	55	50
24.....	50	53	54	55	57	59	58	60	61	60	55	50
25.....	50	53	54	55	58	59	58	60	61	60	55	50
26.....	50	53	54	55	58	59	58	60	61	60	54	50
27.....	50	53	55	55	58	59	58	60	61	60	54	50
28..... ...	50	53	55	55	58	59	58	60	61	59	54	50
29.....	51	.....	55	56	58	59	58	60	61	59	54	50
30.....	51	.....	55	56	58	59	58	60	61	59	54	50
31.....	51	.....	55	.....	58	.....	58	60	.....	59	.....	50
Means ..	50	52	54	55	57	58	58	59	61	60	56	51

Annual 56.1.