U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH ST. CROIX PAPER COMPANY
CLIMATOGRAPHY OF THE UNITED STATES NO. 20 —17

LATITUDE 45° 09' N
LONGITUDE 67° 24' W
ELEV. (GROUND) 140 feet

CLIMATOLOGICAL SUMMARY

STATION WOODLAND, MAINE

MEANS AND EXTREMES FOR PERIOD 1931-1961

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)	31	31	31	31		31		31	31	31		31	31		31		31	31	31	31	31	
Jan	28.8	6.1	17.5	57	1932	-36	1934	1465	3.71	2.41	1935	20.3	43.8	1948	13.0	1960	7	0	19	30	11	Jan
Feb	30.8	6.6	18.7	58	1954	-38	1948	1300	3.20	1.82	1953	20.0	36.6	1952	18.0	1945	6	0	15	28	9	Feb
Mar	39.0	17.9	28.5	77	1945	-21	1938	1125	3.47	2.85	1936	15.3	36.1	1956	12.0	1956+	7	0	7	29	2	Mar
Apr	51.4	30.2	40.8	84	1942	6	1954	720	3.57	1.83	1951	4.6	19.5	1939	9.0	1957	8	0	*	19	0	Apr
May	64.6	39.8	52.2	94	1937+	21	1950	395	3.46	5.08	1961	0.2	2.8	1945	2.8	1945	7	*	0	5	0	May
Jun	73.7	49.1	61.4	98	1944	29	1934	140	3.42	2.00	1942	0	0		0		7	2	0	*	0	Jun
Jul	80.3	55.7	68.0	98	1949+	36	1933	20	3.23	3.80	1941	0	0		0		6	3	0	0	0	Jul
Aug	79.1	53.9	66.5	102	1944+	35	1942	45	2.95	2.73	1943	0	0		0		6	2	0	0	0	Aug
Sep	69.9	45.9	57.9	95	1945+	23	1941	230	3.82	4.91	1954	0	0		0		7	1	0	2	0	Sep
Oct	58.4	36.0	47.2	84	1947+	14	1944	545	4.29	3.83	1937	0.4	4.0	1940	3.0	1940	7	0	0	12	0	Oct
Nov	45.4	26.8	36.1	74	1956+	-4	1936	860	4.82	2.88	1960	5.1	23.0	1938	9.5	1945	8	0	3	22	*	Nov
Dec	32.1	12.3	22.2	60	1950	-41	1933	1320	4.00	4.30	1950	14.2	56.0	1933	18.0	1933	7	0	15	29	5	Dec
Year	54.5	31.7	43.1	102	Aug 1944+	-41	Dec 1933	8165	43.94	5.08	May 1961	80.1	56.0	Dec 1933	18.0	Feb 1945+	83	8	59	176	27	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.

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WEATHER BUREAU

CLIMATE OF WOODLAND

Woodland, on the St. Croix River, is less than 35 miles from the open Atlantic to the southeast. Lakes and ponds, large and small, are numerous in the surrounding flat to rolling coastal plain. The elevation above sea level ranges generally from 100 to 300 feet, though a few hills in the locality, such as Chapman Mountain two miles to the south, exceed 500 feet elevation. The weather observatory is located near the bank of the St. Croix.

Some features of the generally continental climate of this area include: Changeableness of the weather, a large range of temperature both from night to day and from winter to summer, great differences between the same seasons in different years, and a good, fairly even monthly distribution of the annual precipitation. The frequent weather changes are shared with other New England communities as this region is a favored path of weather-making low pressure centers. The large daily and annual temperature ranges denote the decidedly continental character of the climate, though the Atlantic Ocean and the many surrounding lakes are moderating influences. These influences are most effective in limiting summer temperatures to comfortable levels. Effects are less striking in other seasons.

Also like most of New England, Woodland has no especially "rainy" or "dry" seasons. Only one month, August, has a precipitation normal of less than 3 inches. Though amounts increase in late fall and early winter, November, the wettest month, has less than 5 inches normally. The Total Precipitation Table, on the reverse side of this bulletin, shows, however, that the same month may have widely fluctuating amounts from year to year. Monthly totals have varied from only 0.54 to 12.61 inches. Periods of extended severe drought are rare. Shorter periods of dry weather are common enough to warrant the use of irrigation for certain agricultural production, especially higher value truck and fruit crops. The general regularity of the annual precipitation is, fortunately, sufficient to insure water supplies for all purposes. Even in the driest year, 1946, the total of 33.70 inches was nearly 77% of normal. The greatest annual amount was 59.28 inches in 1954.

The number of days recording 0.01 inch or more of precipitation averages 117 per year. The number has ranged from 137 down to 97 days. The average frequency is remarkably uniform throughout the year, though a small increase is evident in April and November. The number of days with 1.00 inch or more averages 10 per year, and has varied from only 4 in 1946 to 19 in 1950. These may occur in any month, though the frequency increases to a little more than 1 per month in late fall and early winter.

In the warmer half of the year much of the rainfall occurs as showers and thunderstorms which often attend frontal passages. Days with thunderstorms reported average 14 per year, with yearly totals varying from 7 to 21. This thunderstorm frequency is light as compared to areas farther inland. Though no month is immune to electrical storms, nearly all come in the April through October period. The maximum average frequency for any month, 4 days, comes in July. The effect of the Atlantic Ocean on precipitation at Woodland is greatest during cold months. Then, coastal storms become more prevalent and are a major producer of precipitation in the form of snow, or, sometimes, sleet or rain. These disturbances may be attended by strong and sometimes damaging winds and may affect the area for a day or more at a time.

That summer heat is comfortably tempered is shown by the table above. Not all summers reach even the 90° mark, though a few have many recurrences of this temperature. There were 22 days in the 90's in 1937. The average annual maximum temperature is 95°. Though only about one of two summers reaches this level, 1944 had 12 days with 95° or higher. The 100° mark was reached in only 2 of 31 years. The warmest summer, based upon June, July, and August, was that of 1937 which averaged 68.0°. The coolest summer, in 1936, averaged 63.0°.

Winters are fairly cold, with a December through February normal mean of 19.5°. The coldest winter, that of 1933-34, averaged only 10.4°. The mildest, that of 1950-51, averaged 25.1°. Zero occurrences have varied from 56 days in the winter of 1933-34 to only 7 in that of 1952-53. The average dates of the first and last zero day are December 17 and March 8. The first occurrence has come as early as November 24 and as late as January 25. The last occurrence has ranged from February 13 to March 31. The -10° mark is reached on an average of 9 days per winter. Occurrences have ranged from 0 to 38 days. Readings of -20° average 2 per winter, varying from 0 to 23 days. The -30° mark was reached in only 5 of 31 winters, though there were 7 such days in the 1933-34 winter. The average winter's lowest temperature is -22°. The highest winter minimum was -6°.

Seasonal snowfall varies widely from the 80-inch average. Only 39.5 inches fell in the 1952-53 season while 1938-39 brought 119.0 inches. Though large season to season differences are the rule, no significant trend toward either snowier or less snowy winters is apparent.

The number of days with snowfall of 1 inch or more averages 23, with 6 in January, 5 in February, 4 each in December and March, 2 each in November and April, and rare occurrences in October and May. The number of days with snowfall of 2 inches or more averages 15 per season; 4 inches or more, 7 per season; 6 inches or more, 3 per season; and 8 inches or more 2 per season. Though a daily snowfall of 10 inches or more comes in only about half the winters, some winters have had as many as three. Thus, the average frequency is brought to nearly once per season. The number of daily snowfalls of 1 inch or more has varied from 13 (1952-53) to 38 (1938-39). The 4 inch count has varied from 3 to 13 per winter season.

Measurable snow blankets the ground continuously for over two months in the usual winter. However, in about one winter in six the ground is frequently bare or nearly bare much of the time. For the seasons with long continuous snowcovers, the average date of beginning is January 5; the average ending is March 15. The earliest beginning of a prolonged cover was December 10. The latest ending was April 8. The longest enduring snowcover was 111 consecutive days, in 1933-34. The average seasonal maximum snow depth is 20 inches, with February 4 as the average date of the maximum. The greatest depth has come as early as November 24 and as late as March 5.

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WOODLAND, MAINE

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	14.6	19.1	32.8	43.2	54.4	61.0	69.0	66.3	57.3	49.8	39.5	23.4	44.2
1932	25.4	14.6	25.8	40.8	52.8	61.0	65.6	67.3	59.0	49.0	34.6	25.5	43.4
1933	24.0	23.4	26.6	41.2	53.5	61.6	65.2	64.8	57.2	46.1	27.3	10.6	41.8
1934	12.4	8.2	27.2	42.4	54.4	60.0	67.2	62.5	60.8	44.6	37.2	16.0	41.1
1935	8.9	13.4	26.1	39.3	50.4	61.7	69.8	68.2	55.4	46.6	37.4	17.1	41.2
1936	16.0	14.2	35.8	39.0	51.5	61.5	64.0	63.5	55.8	46.6	30.3	25.8	42.0
1937	24.8	22.6	26.2	41.2	54.0	62.8	69.8	71.4	59.4	46.3	35.1	19.0	44.4
1938	16.0	15.6	25.4	42.3	49.6	64.6	67.0	68.3	56.4	49.4	35.9	23.8	42.9
1939	15.4	18.0	21.4	37.0	49.8	60.0	68.6	68.8	56.6	46.4	30.6	22.9	41.3
1940	10.6	18.8	26.6	37.8	51.8	59.6	68.2	64.9	56.4	42.8	35.0	19.4	41.0
1941	13.0	21.2	24.8	43.5	51.8	61.8	67.1	62.8	57.0	45.0	34.6	22.8	42.1
1942	14.0	16.8	32.8	41.3	54.6	62.4	66.2	65.7	57.7	48.0	33.4	16.8	42.5
1943	11.8	19.4	26.0	36.0	51.6	60.8	67.6	64.0	56.3	47.6	34.4	15.4	40.9
1944	19.4	16.9	26.0	38.1	54.8	61.7	68.0	70.4	59.4	45.1	37.4	20.9	43.2
1945	14.0	18.8	33.4	44.6	48.8	60.3	68.4	67.3	58.8	44.2	34.8	18.8	42.7
1946	15.8	16.3	37.2	38.5	51.6	62.8	66.1	65.0	58.6	49.3	36.2	20.6	43.2
1947	16.8	22.0	30.8	37.5	51.3	58.9	71.0	68.6	59.4	51.9	34.6	19.5	43.5
1948	14.5	11.4	25.3	39.2	49.8	58.6	68.9	68.4	58.0	46.3	41.1	27.0	42.4
1949	22.1	19.7	29.1	43.8	52.2	64.8	70.5	68.3	57.1	48.8	32.4	28.5	44.8
1950	24.0	16.4	25.4	39.7	52.9	61.8	67.4	65.9	53.8	46.0	40.5	28.3	43.5
1951	23.0	24.1	29.9	43.6	53.0	60.4	67.7	65.6	59.8	47.4	35.0	22.0	44.3
1952	22.5	22.3	30.3	42.6	50.0	62.9	72.9	67.7	58.7	45.7	35.9	26.1	44.8
1953	23.3	22.9	31.1	43.4	53.0	61.6	68.1	64.9	59.1	47.0	40.2	31.8	45.6
1954	15.3	26.0	29.4	39.4	50.3	61.4	64.9	64.0	56.0	48.5	37.5	26.2	43.2
1955	17.3	20.9	26.2	41.6	53.6	60.6	70.3	68.3	56.0	47.0	34.9	14.3	42.6
1956	24.9	17.6	23.0	39.5	46.8	61.7	64.8	63.7	55.0	47.1	40.4	25.2	42.5
1957	10.1	23.7	32.0	41.2	54.2	64.5	66.8	64.5	60.4	49.4	40.0	30.1	44.7
1958	25.4	16.8	35.6	44.1	50.5	58.4	67.4	66.6	57.8	45.2	37.0	13.8	43.2
1959	18.3	15.5	27.1	42.6	55.7	57.7	71.7	67.3	60.1	48.5	37.4	27.3	44.1
1960	17.5	26.0	27.0	41.2	58.2	64.0	69.0	68.6	58.3	45.8	39.1	22.7	44.8
1961	11.1	17.4	26.8	39.7	52.1	62.9	69.8	67.3	64.7	51.0	39.0	26.9	44.0
1962	18.7	12.5	33.2										

WOODLAND, MAINE

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	2.55	1.70	3.89	3.07	3.72	3.50	3.79	3.34	4.09	6.35	1.06	2.61	39.67
1932	3.63	2.20	4.23	2.87	2.03	2.23	2.88	4.16	4.51	6.78	2.42	1.62	39.56
1933	2.73	2.85	3.07	4.34	2.70	3.69	1.22	3.80	5.09	7.12	3.53	5.33	45.47
1934	3.02	3.16	2.31	4.32	2.30	4.35	2.76	2.56	5.91	4.23	5.08	2.84	42.84
1935	8.60	2.51	1.88	4.11	1.21	3.80	.88	2.10	3.83	1.01	6.05	2.48	38.46
1936	6.29	2.37	6.69	4.64	3.92	3.29	2.43	1.76	4.05	5.02	3.61	6.85	50.92
1937	3.05	1.53	3.23	2.75	3.52	4.27	.74	2.29	4.90	5.98	3.69	2.49	38.44
1938	4.39	2.84	2.21	3.56	3.15	3.24	6.05	3.65	5.30	3.50	3.58	4.51	45.98
1939	1.94	4.41	3.29	3.78	1.68	3.11	1.29	1.25	3.34	5.37	1.23	5.57	36.26
1940	.93	1.82	4.39	5.92	2.06	3.33	2.70	1.61	9.08	1.12	6.76	3.24	42.96
1941	1.99	1.03	3.48	.63	2.64	1.65	7.10	2.96	1.55	4.60	2.88	3.42	33.93
1942	3.62	3.10	7.78	2.19	2.26	5.82	2.27	1.82	4.17	3.81	3.97	3.48	44.29
1943	1.00	2.17	2.81	3.23	3.78	4.91	3.23	5.16	3.21	8.17	7.48	1.05	46.20
1944	.54	2.73	3.69	2.53	1.77	4.22	2.64	1.81	7.06	6.76	4.51	3.69	41.95
1945	4.53	2.70	2.93	3.96	6.77	3.66	2.46	1.22	3.46	5.51	5.75	3.40	46.35
1946	2.32	4.20	1.79	3.86	3.76	1.05	1.71	3.11	2.52	2.20	3.27	3.91	33.70
1947	2.93	4.54	3.02	1.86	5.71	4.65	4.41	1.16	2.46	.57	5.23	1.88	38.42
1948	2.83	1.44	2.43	2.43	7.25	2.04	3.63	1.98	.97	3.59	5.79	4.37	38.75
1949	3.45	3.01	2.78	2.79	2.91	2.35	2.23	2.74	6.48	2.26	6.51	2.52	40.03
1950	3.65	3.26	3.00	5.11	.67	3.61	3.48	6.92	1.23	2.45	12.61	7.87	53.92
1951	4.10	4.79	2.37	6.49	4.07	2.04	5.30	5.76	2.66	5.22	6.85	4.94	54.59
1952	5.56	4.04	1.74	2.58	3.39	5.32	3.05	3.88	2.92	3.47	2.70	2.80	41.45
1953	4.79	5.40	6.53	4.65	2.87	1.59	5.40	3.94	4.10	3.38	5.47	5.67	53.79
1954	3.92	4.59	3.55	4.88	4.30	3.95	2.70	5.06	7.87	6.17	4.61	7.68	59.28
1955	1.97	5.30	4.52	2.25	4.02	3.47	3.43	3.59	2.05	1.44	3.00	.96	36.00
1956	6.85	2.17	4.46	4.50	4.85	2.49	2.25	2.87	2.75	2.79	2.92	4.17	43.07
1957	2.61	2.00	2.54	3.62	2.86	1.84	4.00	3.00	1.31	.94	6.25	7.25	38.22
1958	9.03	4.02	2.55	3.35	3.48	4.13	5.78	3.24	2.84	4.87	4.75	1.60	49.64
1959	4.70	3.24	5.03	2.54	1.39	8.14	5.24	3.44	3.00	7.38	7.90	5.02	57.02
1960	4.48	7.19	2.16	3.17	2.90	2.17	3.67	.56	2.72	5.34	5.44	5.81	45.61
1961	2.97	2.89	3.12	4.79	9.40	2.24	1.41	.77	2.91	5.61	4.54	4.84	45.49
1962	3.94	2.05	1.45										

CLIMATE OF WOODLAND (continued)

Based upon the occurrence of the freezing temperature, 32°, the "growing season" for susceptible tender vegetation averages 132 days, from May 17 to September 26. Though the year to year dates differ, about two-thirds of the occurrences fall within 10 days, either way, of the average dates. The extreme dates for the last spring freeze are May 1 and June 12. For the first occurrence of 32° in fall the extremes are September 9 and October 17. For a more severe freeze, marked by the occurrence of 28°, the season averages 155 days, from May 6 to October 8. At the 24° level, the dates are April 20 and October 20.

In summary, Woodland is nearly free of very uncomfortable summer heat. Even in the warmest weather, nights are mostly cool. Winters provide plentiful snow and cold for winter sprots. Prolonged periods of severe cold are rare, though 14 consecutive days with minima of zero or lower were recorded from January 29 to February 11, 1948. Precipitation is generally well distributed and frequent but not excessive and is therefore a valuable local asset.

HISTORY OF WEATHER OBSERVATIONS AT WOODLAND, MAINE

Official daily weather observations were begun July 1, 1917, by the St. Croix Paper Co. The observatory has remained at the same location throughout the entire period of record. The actual observers have been Mr. Walter S. Dow and his son, Mr. Russell J. Dow. The data in this bulletin are derived from the period 1931 through 1961, only. The records on snowcover, made at the observatory, should apply better to the town than to surrounding wooded area. Though the snowcover in forests may lag behind that in open areas early in the season, the depth usually exceeds that in the open later in the season. The date of the maximum snowcover is also later in woods, where the snow also lasts later in the spring.

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