

LATITUDE 44° 01'  
 LONGITUDE 107° 57'  
 ELEV. (GROUND) 4061'

STATION Worland, Wyoming

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD 1926-1955

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)						Mean number of days						Month			
	Means				Extremes					Mean	Greatest daily	Year	Snow, Sleet			Precip. .10 inch or more	Temperatures								
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily		Year	90° and above	Max.		Min.				
																			32° and below	32° and below	0° and below		0° and below		
(a)	30	30	30	30	----	30	----	1570	30	30	----	30	30	----	30	----	30	30	30	30	30	30	30	30	Jan.
Jan.	29.0	-0.1	14.5	61	1934	-51	1930	1220	.31	.52	1928	4.0	10.5	1943	6.0	1933	1	0	17	31	14	8	8	8	Feb.
Feb.	36.6	7.3	21.6	68	1950	-51	1933	680	.26	.46	1928	3.1	19.0	1933	6.0	1933	1	0	9	28	8	2	2	2	Mar.
Mar.	46.9	19.5	33.2	78	1943	-24	1932	620	.40	.85	1937	3.0	8.5	1950	6.0	1950	1	0	4	30	2	8	8	8	Mar.
Apr.	60.7	31.3	44.5	88	1939	-18	1936	620	1.00	2.10	1944	2.0	12.5	1934	4.0	1951	3	0	*	16	*	*	*	*	Apr.
May	70.4	41.4	55.9	94	1954+	18	1954	300	1.47	1.25	1943	0.3	5.5	1954	5.5	1954	4	1	0	3	0	0	0	0	May
June	79.3	48.9	64.1	102	1954+	29	1951	120	1.36	2.05	1945	0	0	----	0	----	4	5	0	*	0	0	0	0	June
July	90.1	54.4	72.9	106	1954+	38	1945	10	.87	2.01	1931	0	0	----	0	----	2	19	0	0	0	0	0	0	July
Aug.	87.2	51.4	66.9	103	1949	36	1948+	60	.56	1.19	1930	0	0	----	0	----	2	13	0	0	0	0	0	0	Aug.
Sept.	75.6	41.0	58.3	102	1931	12	1926	230	.79	.97	1948	0.2	2.5	1944+	2.5	1944	3	3	0	3	0	0	0	0	Sept.
Oct.	63.1	30.8	46.8	88	1942	5	1935	570	.68	.96	1942	1.1	6.5	1928	4.5	1947	2	0	*	19	0	0	0	0	Oct.
Nov.	44.7	17.6	31.1	71	1953+	-28	1955	1020	.38	.62	1942	3.6	14.4	1947	7.0	1944	2	0	5	29	2	2	2	2	Nov.
Dec.	32.6	6.2	19.4	68	1933	-35	1927	1410	.23	E .40	1950	3.3	11.1	1943	6.0	1936	1	0	14	31	9	9	9	9	Dec.
Year	59.7	29.2	44.5	106	July 1954+	-51	Feb. 1933+	7810	8.31	2.10	April 1944	20.6	19.0	Feb. 1933	7.0	Nov. 1944	26	41	49	190	35	Year	Year	Year	Year

- (a) Average length of record, years. + Also on earlier dates, months, or years.
- † Trace, an amount too small to measure. \* Less than one half.
- \*\* Base 65°F; values computed from mean temperatures. E Estimated.

NARRATIVE CLIMATOLOGICAL SUMMARY

Worland is located in the central portion of the Big Horn Basin along the Big Horn River. This area is protected from strong winds by the Absaroka Mountains to the west and the Big Horn Mountains to the east, of which the higher peaks extend to approximately 9,000 feet above Worland. Frank's Peak about 65 miles to the west has an elevation of 13,140 feet and Cloud Peak about 45 miles to the northeast has an elevation of 13,175 feet as compared to an elevation of 4,061 feet for Worland. The terrain is also higher to the north and south with the exception of the narrow canyon of the Big Horn River to the north. These protecting mountain ranges cause very light winds and calms at Worland a high percentage of the time.

The mountain ranges also form an effective barrier to precipitation by causing the air to drop much of its moisture over the mountains before entering the Basin. Prevailing winds aloft over the mountains are from the west or of Pacific origin. The average annual precipitation at Worland for the thirty year period on which this summary is based is 8.31 inches. Most of the precipitation occurs in the form of rain during the growing season; for the six months period from April through September the average is 6.05 inches, leaving only 2.26 for the other six months. Nearly half of the annual precipitation will occur during the three month period of April, May and June, the average total for these months being 3.83 inches. Occasional summer thunderstorms are associated with hail but most of the hail is light and limited to small areas.

Temperatures show quite a wide range between winter and summer values. The air moving into the Basin is forced downward from the surrounding mountains and this produces a warming effect. However, during the winter months a layer of cold air will form in the Basin due to radiation of heat and drainage of colder air from the surrounding mountains. At this time of the year the sun is not very effective and the layer of cold air which forms in the Basin is too thick for the sun to warm it very much. For this reason the temperature at Worland during winter days is often lower than many places at higher elevations. On the other hand, the Big Horn Range will often prevent some of the outbreaks of cold air from Canada from reaching the Basin. That occurs when the cold air masses are relatively shallow and move southward over the plains east of the mountains. The deeper cold air masses will flow over the mountain ranges and into the Basin causing occasional cold waves which are usually associated with some snow.

The average date in the Spring for the last temperature of 32° or lower is May 14 and the average date for the first temperature of 32° or lower in the Fall is September 23. Thus, there is a growing season of 132 days on the average for the more tender plants. It would be a little longer for hardier vegetation because the above dates included times when the temperature barely dropped to 32° for a short time. For the period of record the latest that a temperature of 32° or lower occurred in the Spring was June 21, 1926. The earliest in the Fall for such a temperature was on August 22, 1924. However, there is only a 10% chance for such a temperature in June and only a 2% chance in August. While May 14 is the average date of the beginning of the frost-free period which means that 50% of the frosts may be expected after that date, a further computation shows that for 87% of the years the last frost in the Spring will occur by the 20th of May. In other words, tender plants have only a 13% chance of being damaged after May 20. Only once during the period of record has a temperature of 32° or lower been recorded in August and there is only a 17% chance for such a temperature to occur before September 15.

Sunshine is quite abundant in the Worland area. There are not many days throughout the year when the sun does not shine at least part of the day. There is no instrumental record on the exact amount of sunshine but it is estimated to average something like 70% on an annual basis with a higher percentage during the summer and less in the winter.

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1926	13.7	24.6	34.2	47.0	57.2	64.2	71.6	67.8	52.0	47.4	35.4	19.4	44.5
1927	15.2	27.9	34.8	43.6	52.0	64.4	70.6	65.1	56.8	48.4	33.8	8.4	43.4
1928	16.2	13.2	34.0	43.2	59.4	59.4	70.2	66.1	56.8	44.4	31.4	12.5	42.2
1929	5.8	7.8	32.8	43.5	52.5	63.3	73.0	72.9	54.2	40.1	20.8	21.3	41.2
1930	-3.6	30.1	32.4	32.6	54.9	63.2	73.4	70.6	58.3	43.8	32.8	20.4	44.1
1931	22.2	31.0	34.5	45.6	55.3	69.2	73.9	69.7	60.6	47.4	26.4	11.8	45.6
1932	7.1	17.0	24.2	44.2	55.6	63.7	71.6	69.4	56.0	47.2	29.3	8.0	40.3
1933	13.6	7.8	38.0	42.1	53.4	71.8	75.2	67.8	60.8	49.7	35.2	27.0	45.2
1934	26.0	30.2	39.2	49.7	64.2	65.4	74.2	70.5	53.8	50.8	37.9	26.3	49.0
1935	20.6	29.0	33.8	42.2	51.4	64.3	75.0	69.4	60.2	46.1	26.4	25.4	45.3
1936	17.7	2.8	33.8	44.8	61.8	69.0	76.7	70.6	58.0	45.4	31.7	23.0	44.6
1937	-4.3	21.2	33.2	44.8	58.6	64.4	72.6	72.0	62.1	49.2	32.8	19.5	44.0
1938	18.6	23.2	37.4	46.6	59.3	66.2	71.4	69.8	55.0	49.7	25.4	20.8	43.8
1939	22.4	10.3	34.8	48.5	60.3	62.3	73.4	68.6	59.9	48.4	37.1	11.5	46.2
1940	10.2	23.2	39.6	46.5	59.2	67.0	74.2	72.0	64.0	50.8	28.2	22.2	46.4
1941	20.9	28.6	36.3	46.4	59.2	66.8	72.8	70.8	54.4	44.4	32.7	23.0	46.4
1942	9.8	15.5	34.7	49.2	54.6	63.8	73.0	71.4	60.5	48.2	33.2	19.9	44.5
1943	14.1	27.7	26.8	52.8	53.0	62.8	71.7	71.3	58.8	48.8	35.8	17.3	45.1
1944	12.3	15.8	29.0	46.4	56.4	61.2	69.4	68.4	58.2	50.0	27.6	11.5	42.2
1945	13.4	20.6	32.8	39.8	54.7	59.1	70.8	69.4	52.8	49.0	31.8	15.2	42.4
1946	17.9	24.3	41.0	52.8	59.2	65.2	73.6	67.6	57.4	42.8	31.0	24.8	45.9
1947	15.4	25.9	31.6	44.0	56.8	59.7	73.0	70.4	60.0	51.3	25.8	18.8	44.4
1948	18.5	17.6	29.5	46.8	56.5	64.4	69.0	66.6	59.6	45.2	28.3	15.3	43.1
1949	6.5	13.2	34.4	57.9	58.3	64.0	71.4	70.9	58.3	40.9	40.3	19.7	44.0
1950	7.8	26.6	31.5	44.5	49.5	63.3	67.4	64.9	56.9	50.5	28.8	18.5	42.5
1951	12.2	25.7	27.5	41.5	56.6	56.5	68.9	66.8	54.0	44.7	29.5	18.3	41.9
1952	13.4	24.1	30.5	48.4	57.0	66.8	68.9	69.0	60.9	47.1	28.2	21.3	44.7
1953	27.0	27.0	37.8	41.9	50.9	64.8	74.0	70.2	60.1	49.6	39.2	25.0	47.3
1954	23.0	34.9	28.4	45.9	55.4	63.5	75.1	66.8	60.1	43.0	24.3	24.3	46.4
1955	20.1	18.8	25.8	43.9	56.4	63.3	72.2	72.2	58.8	48.2	21.1	15.6	43.0

## STATION HISTORY

The first official weather record was that for January of 1907. From that time until the Holly Sugar Corporation began taking the observations in 1923 there were several observers. During that early period there were frequent changes in observers making it necessary to move the weather station from one locality to another in or near Worland. Also during those first years the records are missing for some of the months but from 1920 on the records are continuous.

The observers listed in their order of service are as follows:

- R. V. Holmes January 1907-February 1907
- A. Ray Hipp July 1907-May 1909
- Harry S. Smith January 1911-July 1911
- B. C. Burfum August 1911-September 1916
- C. H. Morsch October 1916-November 1916
- F. C. Emerson December 1917-May 1919
- Robert E. Kennedy June 1919-October 1921
- Roger Kennedy November 1921-May 1923
- Holly Sugar Corporation June 1923-to date.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1926	0.43	0.12	0.72	0.43	1.70	0.39	0.57	1.10	1.80	0.88	0.30	0.04	7.46
1927	0.35	0.36	0.31	0.77	1.94	1.02	0.88	0.99	1.39	0.03	0.03	0.14	9.16
1928	0.87	0.89	0.31	0.77	0.56	2.42	2.71	0.90	0.32	0.98	1.00	0.20	11.93
1929	0.05	0.42	0.55	0.86	1.03	0.06	0.75	3.07	1.48	0.87	0.48	0.15	7.07
1930	0.36	0.13	0.20	0.73	2.94	0.20	0.76	3.01	0.21	1.19	0.00	0.23	9.96
1931	0.09	0.19	0.32	0.59	3.00	0.39	2.32	0.33	0.63	1.02	0.30	0.15	9.33
1932	0.73	0.03	0.36	0.98	1.38	1.51	0.18	0.38	0.43	1.21	0.31	0.42	7.92
1933	0.64	1.06	0.42	0.94	1.66	0.59	0.23	1.48	0.28	0.17	0.17	0.30	7.75
1934	T	0.16	0.30	1.54	0.15	0.74	0.86	0.03	0.56	0.75	0.13	0.03	5.25
1935	0.06	0.32	0.40	0.77	2.25	0.96	0.79	0.43	0.09	0.19	0.27	0.12	6.65
1936	0.32	0.54	0.27	0.54	0.41	0.77	1.60	0.87	0.35	0.50	0.44	0.48	7.09
1937	0.20	0.12	1.16	1.50	1.58	1.69	2.79	0.19	0.50	0.56	0.22	0.33	10.84
1938	0.13	0.23	0.13	0.32	1.48	1.52	0.96	0.07	0.12	0.62	0.21	0.18	8.26
1939	0.30	0.11	0.40	0.46	1.23	1.41	0.84	0.29	0.29	0.05	0.00	0.04	5.42
1940	0.34	0.22	0.06	2.64	0.97	1.23	1.05	0.12	1.67	1.12	0.46	0.17	9.65
1941	0.24	0.17	0.29	1.33	1.10	1.07	1.54	0.69	1.15	1.81	0.85	0.65	10.89
1942	0.38	0.35	0.39	0.42	1.27	0.45	0.26	0.04	1.08	1.49	1.70	0.43	8.26
1943	0.63	0.15	0.66	0.46	1.61	1.77	0.36	0.44	0.43	0.53	0.20	0.60	7.84
1944	0.50	0.20	0.36	4.53	1.85	3.45	0.63	0.03	0.88	0.06	0.77	0.31	13.97
1945	0.34	0.17	0.52	0.46	2.65	4.74	0.38	0.78	1.46	0.13	0.78	0.19	12.60
1946	0.09	0.05	0.96	0.77	1.21	2.59	0.61	0.65	1.65	1.58	0.36	0.32	10.84
1947	0.03	0.54	0.13	1.04	2.83	2.31	0.23	0.63	1.02	1.27	1.53	0.07	11.63
1948	0.39	0.11	0.37	1.11	0.66	1.84	0.84	1.11	1.22	0.29	0.13	0.13	8.37
1949	0.35	0.13	0.56	0.47	1.50	1.32	0.10	0.12	1.04	1.30	0.00	0.16	7.25
1950	0.30	0.04	0.66	1.26	0.93	2.07	1.01	0.21	1.96	T	0.10	0.40	8.94
1951	T	0.10	0.30	0.65	0.91	1.00	1.46	0.20	0.50	0.31	0.09	0.10	5.62
1952	0.41	0.19	0.17	1.24	2.11	0.90	0.65	0.25	0.15	0.00	0.16	0.08	6.29
1953	0.28	0.40	0.40	1.53	1.27	0.54	0.30	0.61	0.33	0.79	T	0.00	6.45
1954	0.25	0.22	0.22	0.27	1.45	0.41	0.05	0.12	0.04	0.41	0.05	0.00	2.27
1955	0.21	0.24	0.38	0.50	1.85	1.36	0.28	0.32	0.73	0.11	0.31	0.33	8.82