U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: OGDEN PIONEER P H, UT **COOP ID: 426404**

Climate Division: UT 3 **NWS Call Sign:** **Elevation: 4,350 Feet** **Lat: 41˚15N** **Lon: 111˚57W**

Temperature (˚F)

	Mean (1)			Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	36.1	20.1	28.1	65	1970	23	34.5	1999	-16	1949	26	20.6	1984	1144	0	.0	.0	2.0	9.3	28.2	.6
Feb	42.6	23.8	33.2	68	1986	25	40.7	1995	-11+	1949	13	23.9	1984	891	0	.0	.0	7.3	3.4	23.0	.4
Mar	52.2	31.2	41.7	76+	1956	24	49.0	1986	3	1964	8	34.4	1976	722	0	.0	.0	19.6	.3	15.3	.0
Apr	60.8	38.2	49.5	86+	2000	28	56.4	1992	20	1982	5	42.6	1975	471	6	.0	.0	26.2	.0	6.0	.0
May	70.5	47.2	58.9	93	1954	20	64.4	1992	21	1981	29	53.1	1975	224	33	.0	.2	30.3	.0	.8	.0
Jun	81.5	55.8	68.7	101	1981	25	74.6	1988	33	1976	14	61.9	1998	57	166	.2	6.9	30.0	.0	.0	.0
Jul	90.0	63.1	76.6	103+	1955	15	80.7	1989	44	1954	22	68.4	1993	3	361	.4	19.6	31.0	.0	.0	.0
Aug	88.4	61.5	75.0	102	1994	5	78.7	2000	34	1960	23	71.1	1993	2	312	.3	16.2	31.0	.0	.0	.0
Sep	77.8	52.1	65.0	97+	1948	14	70.9	1990	29	1978	18	60.1	1971	96	94	.0	2.6	29.9	.0	.2	.0
Oct	64.7	40.7	52.7	88	1963	3	61.2	1988	11	1970	28	46.7	1984	390	8	.0	.0	28.5	.1	3.7	.0
Nov	48.4	29.9	39.2	75+	1958	9	47.1	1999	-12	1955	16	32.6	1994	776	0	.0	.0	14.0	1.4	17.9	.0
Dec	37.8	21.7	29.8	66	1995	1	35.8	1977	-12	1990	23	20.9	1990	1092	0	.0	.0	3.1	7.6	27.8	.5
Ann	62.6	40.4	51.5	103+	Jul 1955	15	80.7	Jul 1989	-16	Jan 1949	26	20.6	Jan 1984	5868	980	.9	45.5	252.9	22.1	122.9	1.5

\+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.32	2.21	1.65	1953	14	4.44	1995	.57	1985
Feb	2.13	1.80	2.61	1976	9	4.96	1976	.18	1988
Mar	2.44	2.19	1.90	1975	25	5.66	1975	.74	1972
Apr	2.45	2.35	2.18	1988	22	6.40	1986	.15	1987
May	2.90	2.38	2.29	1981	21	6.49	1977	.10	1972
Jun	1.47	1.27	2.09	1973	14	4.77	1998	.00	1994
Jul	.94	.92	1.96	1993	24	2.73	1993	.00+	1994
Aug	1.02	.70	2.76	1951	4	3.87	1983	.01+	1996
Sep	1.75	1.17	3.19	1991	8	7.37	1982	.00	1974
Oct	2.27	2.22	2.30	1993	7	5.82	1981	.00	1978
Nov	2.01	2.03	1.53	1952	15	5.21	1988	.03	1976
Dec	1.97	1.56	2.05	1997	9	8.90	1983	.00	1986
Ann	23.67	24.05	3.19	Sep 1991	8	8.90	Dec 1983	.00+	Jul 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.3	6.4	1.2	.2
Feb	8.9	5.4	1.4	.2
Mar	9.7	5.7	1.6	.3
Apr	9.2	5.6	1.6	.4
May	10.2	6.7	2.1	.4
Jun	5.2	3.0	1.1	.2
Jul	4.2	1.9	.5	.2
Aug	4.6	2.2	.6	.2
Sep	6.1	3.5	1.2	.3
Oct	7.3	4.5	1.4	.6
Nov	8.7	5.2	1.1	.1
Dec	8.8	5.3	.9	.2
Ann	93.2	55.4	14.7	3.3

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.77	.99	1.32	1.59	1.85	2.12	2.42	2.77	3.21	3.90	4.54
Feb	.47	.67	.98	1.26	1.54	1.84	2.18	2.59	3.12	3.97	4.77
Mar	.68	.91	1.27	1.57	1.87	2.19	2.53	2.94	3.47	4.31	5.09
Apr	.31	.51	.85	1.20	1.56	1.96	2.42	3.00	3.77	5.05	6.28
May	.55	.81	1.24	1.63	2.03	2.46	2.95	3.54	4.32	5.58	6.77
Jun	.01	.08	.23	.42	.65	.93	1.29	1.75	2.42	3.57	4.74
Jul	.00	.04	.16	.29	.45	.63	.86	1.14	1.54	2.23	2.91
Aug	.04	.09	.20	.33	.49	.68	.92	1.22	1.66	2.41	3.17
Sep	.03	.13	.35	.59	.87	1.20	1.60	2.11	2.84	4.08	5.32
Oct	.09	.28	.61	.94	1.30	1.71	2.19	2.79	3.61	4.99	6.34
Nov	.31	.48	.77	1.04	1.33	1.65	2.01	2.46	3.05	4.02	4.95
Dec	.13	.32	.63	.92	1.23	1.57	1.96	2.43	3.08	4.15	5.18
Ann	14.81	16.44	18.58	20.23	21.72	23.18	24.70	26.40	28.49	31.55	34.24

\+ Also occurred on an earlier date(s)
\# Denotes amounts of a trace
@ Denotes mean number of days greater than 0 but less than .05
****** Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals
(2) Derived from station's available digital record: 1948-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	11.8	13.4	4	4
Feb	8.6	7.0	3	1
Mar	3.7	2.3	#	#
Apr	.8	.0	#	0
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	.4	.0	#	0
Nov	4.2	1.0	1	#
Dec	11.4	10.0	3	2
Ann	40.9	33.7	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	11.5	1989	6	20.0	1974	23	1996	31	15	1989
Feb	10.0	1974	5	19.2	1998	23	1996	1	14	1984
Mar	8.0	1976	1	15.0	1976	12	1984	4	4	1984
Apr	8.0	1999	1	11.0	1999	4	1977	1	#+	1998
May	#	1977	17	#	1977	2	1975	4	#	1975
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1971	30	#	1971	#	1971	30	#	1971
Oct	4.0	1971	31	8.0	1971	#+	1995	22	#+	1995
Nov	10.0	1978	12	26.0	1985	13	1985	19	5	1985
Dec	13.0	1971	3	42.5	1971	24	1982	5	16	1983
Ann	13.0	Dec 1971	3	42.5	Dec 1971	24	Dec 1982	5	16	Dec 1983

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.1	3.8	1.4	.5	.1
Feb	2.8	2.6	1.2	.4	@
Mar	1.4	1.3	.5	.2	.0
Apr	.3	.3	.1	@	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.2	.1	.0	.0
Nov	1.5	1.5	.4	.2	@
Dec	2.7	2.5	1.0	.3	.1
Ann	13.0	12.2	4.7	1.6	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	14.3	12.8	9.0	2.0
Feb	8.2	5.8	3.8	.5
Mar	2.2	1.0	.5	.0
Apr	.2	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	1.5	.9	.9	.3
Dec	8.1	6.6	4.7	1.5
Ann	34.5	27.1	18.9	4.3

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values
Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

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Freeze Data

Spring Freeze Dates (Month/Day)

Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/31	5/25	5/21	5/17	5/14	5/10	5/06	5/02	4/26
32	5/20	5/13	5/08	5/03	4/29	4/25	4/21	4/15	4/08
28	5/03	4/23	4/16	4/10	4/05	3/30	3/24	3/17	3/08
24	4/19	4/10	4/04	3/29	3/24	3/19	3/14	3/07	2/26
20	3/25	3/17	3/12	3/07	3/03	2/26	2/21	2/16	2/08
16	3/14	3/07	3/01	2/25	2/20	2/16	2/11	2/06	1/29

Fall Freeze Dates (Month/Day)

Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/19	9/25	9/29	10/03	10/06	10/10	10/14	10/18	10/24
32	10/04	10/10	10/14	10/18	10/21	10/25	10/28	11/02	11/08
28	10/21	10/25	10/28	10/31	11/03	11/05	11/08	11/11	11/16
24	10/28	11/02	11/06	11/09	11/12	11/15	11/18	11/22	11/27
20	11/10	11/16	11/21	11/24	11/28	12/01	12/05	12/09	12/15
16	11/19	11/24	11/28	12/02	12/05	12/08	12/12	12/16	12/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	163	156	151	145	140	134	127	118
32	204	194	187	180	174	168	162	155	144
28	240	230	223	217	211	205	199	192	183
24	261	251	244	238	232	226	220	213	203
20	300	290	282	276	270	264	257	250	239
16	316	306	299	293	287	281	275	268	258

***** Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

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Degree Days to Selected Base Temperatures (˚F)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1144	891	722	471	224	57	3	2	96	390	776	1092	5868
60	989	751	568	335	124	19	0	0	39	256	626	937	4644
57	896	667	477	262	79	9	0	0	19	188	538	844	3979
55	834	611	419	218	56	5	0	0	11	148	480	782	3564
50	679	477	282	129	19	0	0	0	2	73	343	627	2631
32	208	110	19	3	0	0	0	0	0	0	39	160	539

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	87	143	320	528	832	1099	1381	1333	988	641	253	91	7696
55	0	0	7	54	174	413	668	620	309	76	4	0	2325
57	0	0	3	37	135	357	606	558	257	54	2	0	2009
60	0	0	1	20	87	278	513	465	187	29	0	0	1580
65	0	0	0	6	33	166	361	312	94	8	0	0	980
70	0	0	0	0	9	84	220	172	35	1	0	0	521

Growing Degree Units (2)

Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	4	39	158	334	607	881	1149	1104	764	424	103	16	4	43	201	535	1142	2023	3172	4276	5040	5464	5567	5583
45	0	8	72	208	454	731	994	949	614	290	43	3	0	8	80	288	742	1473	2467	3416	4030	4320	4363	4366
50	0	0	26	117	314	581	839	794	468	168	11	0	0	0	26	143	457	1038	1877	2671	3139	3307	3318	3318
55	0	0	4	55	195	433	684	639	329	82	0	0	0	0	4	59	254	687	1371	2010	2339	2421	2421	2421
60	0	0	0	18	99	297	529	486	203	28	0	0	0	0	0	18	117	414	943	1429	1632	1660	1660	1660
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	21	93	195	367	564	751	729	486	252	62	6	0	21	114	309	676	1240	1991	2720	3206	3458	3520	3526

(1) Derived from the 1971-2000 Monthly Normals
(2) Derived from 1971-2000 serially complete daily data
Note: For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:
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Notes

a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.

b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.

c. Only observed validated values were used to select the extreme daily values.

d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.

e. Degree Days were derived using the same techniques as the 1971-2000 normals.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set .
Documentation of the serially complete data set is available from the link below:

g. Snowfall and snow depth statistics were derived from the Snow Climatology.
Documentation for the Snow Climatology project is available from the link under references.

Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were are for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html
Snow Climatology Project Description, www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/ serialcomplete_jam_0900.pdf