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: PICABO, ID **COOP ID: 107040**

Climate Division: ID 7 **NWS Call Sign:** **Elevation: 4,830 Feet** **Lat: 43˚18N** **Lon: 114˚04W**

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	30.9	6.7	18.8	53	1981	23	28.9	1981	-33	1962	24	9.2	1985	1432	0	.0	.0	.2	16.9	30.9	9.9
Feb	36.7	11.0	23.9	63+	1992	29	35.7+	1992	-30+	1989	8	9.6	1985	1153	0	.0	.0	1.8	8.8	28.1	6.0
Mar	45.6	19.9	32.8	72	1986	28	42.6	1992	-15+	1964	4	21.7	1985	1000	0	.0	.0	9.4	1.5	30.1	1.1
Apr	56.8	27.1	42.0	86	1992	30	47.6	1992	9	1975	2	34.4	1975	692	0	.0	.0	23.0	.1	23.6	.0
May	65.7	34.3	50.0	91+	1986	31	57.1	1992	14	1972	1	45.5	1977	467	2	.0	.2	29.6	.0	12.4	.0
Jun	75.4	40.6	58.0	98+	1988	25	63.2	1977	24	1990	2	54.0	1998	231	22	.0	2.6	29.9	.0	2.9	.0
Jul	84.7	46.0	65.4	102	1998	17	70.9	1998	29+	1986	6	57.7	1993	87	97	.1	10.4	31.0	.0	.3	.0
Aug	84.2	45.1	64.7	100+	1990	7	69.2	1991	24	1960	23	59.5	1985	98	87	@	9.0	31.0	.0	.4	.0
Sep	73.4	36.8	55.1	99	1998	4	62.1	1998	16	1965	17	48.5	1972	318	20	.0	.8	29.7	.0	7.7	.0
Oct	61.1	27.9	44.5	90	1992	1	51.5	1988	3	1971	29	39.9	1984	636	0	.0	.0	27.2	.1	22.4	.0
Nov	42.4	18.1	30.3	70	1965	1	37.5	1999	-15	1985	24	22.0	1985	1043	0	.0	.0	7.7	4.7	28.8	1.4
Dec	31.9	8.8	20.4	62	1995	2	28.3	1995	-37	1990	23	8.4	1985	1385	0	.0	.0	.4	14.7	30.8	6.5
Ann	57.4	26.9	42.2	102	Jul 1998	17	70.9	Jul 1998	-37	Dec 1990	23	8.4	Dec 1985	8542	228	.1	23.0	220.9	46.8	218.4	24.9

\+ 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: 1958-2001

(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	1.62	1.66	1.34	1967	22	3.57	1980	.00+	1991
Feb	1.43	1.26	2.00	1963	1	4.55	1986	.09	1991
Mar	1.32	1.10	1.50	1991	5	3.30	1995	.00	1994
Apr	.92	.85	1.20	1981	20	2.15	1978	.00	1987
May	1.29	1.09	1.60	1987	17	3.80	1995	.00+	1997
Jun	.92	.69	1.72	1967	1	3.45	1995	.00+	1996
Jul	.46	.25	1.40	1985	23	2.32	1985	.00+	2000
Aug	.39	.34	1.16	1968	20	1.44	1983	.00+	1996
Sep	.70	.57	1.15	1991	10	1.82	1978	.00+	1999
Oct	.89	.80	1.10	1993	17	2.09	1989	.00+	1998
Nov	1.46	1.08	1.30	1988	23	5.61	1988	.00	1976
Dec	1.51	1.37	2.45	1964	22	4.91	1996	.00	1989
Ann	12.91	12.38	2.45	Dec 1964	22	5.61	Nov 1988	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.6	5.2	.9	.1
Feb	6.0	4.3	.8	.1
Mar	6.7	5.1	.5	.1
Apr	5.9	4.0	.2	@
May	7.3	4.5	.5	.1
Jun	4.7	3.2	.4	.1
Jul	2.3	1.3	.2	@
Aug	2.5	1.5	.1	.0
Sep	3.4	2.3	.3	.1
Oct	4.6	3.0	.4	.1
Nov	7.0	4.8	.8	.1
Dec	6.5	5.3	1.1	.1
Ann	63.5	44.5	6.2	.9

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	.00	.39	.73	.98	1.21	1.45	1.72	2.01	2.41	3.03	3.61
Feb	.20	.31	.52	.72	.93	1.16	1.42	1.75	2.19	2.92	3.61
Mar	.17	.34	.56	.75	.94	1.14	1.36	1.63	1.98	2.54	3.07
Apr	.12	.23	.39	.52	.65	.79	.95	1.13	1.38	1.77	2.14
May	.00	.23	.49	.70	.90	1.11	1.34	1.61	1.97	2.55	3.10
Jun	.00	.06	.20	.34	.50	.67	.88	1.14	1.49	2.09	2.68
Jul	.00	.00	.02	.09	.17	.27	.40	.56	.79	1.18	1.59
Aug	.00	.00	.07	.15	.22	.30	.39	.50	.65	.88	1.11
Sep	.00	.00	.10	.23	.36	.50	.67	.88	1.16	1.63	2.09
Oct	.00	.00	.22	.38	.53	.70	.89	1.12	1.43	1.94	2.44
Nov	.05	.17	.37	.59	.82	1.08	1.40	1.79	2.34	3.25	4.14
Dec	.06	.18	.40	.61	.86	1.13	1.45	1.86	2.42	3.35	4.27
Ann	8.13	9.01	10.17	11.06	11.86	12.64	13.46	14.37	15.49	17.13	18.57

\+ 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: 1958-2001
(3) Derived from 1971-2000 serially complete daily data

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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	10.2	11.5	8	6
Feb	8.8	5.0	8	8
Mar	4.4	3.0	3	1
Apr	.9	.0	#	0
May	.5	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.4	.0	#	0
Nov	7.2	7.0	1	1
Dec	8.9	7.3	5	2
Ann	41.3	33.8	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	10.0	1980	12	24.0	1971	32	1993	25	23	1993
Feb	18.0	1985	8	30.5	1975	29	1993	28	23+	1993
Mar	7.0	1975	22	13.5	1975	30	1985	5	21	1985
Apr	4.0	1976	26	8.5	1975	14	1985	1	6	1975
May	4.0	1978	5	4.0	1988	2	1986	8	#+	1988
Jun	.0	0	0	.0	0	1	1979	7	#+	1999
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	#	1985	21	#+	1985	0	0	0	0	0
Oct	3.0	1971	30	3.5	1971	3	1975	26	#+	1996
Nov	8.0	1977	22	32.0	1988	17	1988	28	6	1988
Dec	12.0	1996	5	33.0	1983	23	1996	25	16	1996
Ann	18.0	Feb 1985	8	33.0	Dec 1983	32	Jan 1993	25	23+	Feb 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.4	4.2	1.5	.6	@
Feb	3.3	3.2	1.3	.4	.1
Mar	1.7	1.5	.4	.1	.0
Apr	.5	.4	@	.0	.0
May	.3	.3	.1	.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	.3	.2	.1	.0	.0
Nov	3.1	3.0	.7	.3	.0
Dec	4.3	4.1	1.2	.4	@
Ann	17.9	16.9	5.3	1.8	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	25.8	20.6	17.6	8.2
Feb	20.8	16.2	13.5	7.1
Mar	8.8	6.4	5.3	2.8
Apr	1.6	1.3	.8	.6
May	.2	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.3	.1	.0	.0
Nov	7.7	2.9	1.4	.0
Dec	15.6	9.9	5.8	2.8
Ann	80.8	57.4	44.4	21.5

+ 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	7/18	7/13	7/09	7/06	7/03	6/30	6/27	6/23	6/18
32	7/05	6/29	6/24	6/21	6/17	6/14	6/10	6/05	5/30
28	6/15	6/08	6/02	5/29	5/25	5/20	5/16	5/10	5/03
24	5/22	5/16	5/12	5/08	5/05	5/02	4/28	4/24	4/19
20	5/07	5/01	4/27	4/24	4/21	4/17	4/14	4/10	4/04
16	4/16	4/10	4/06	4/02	3/30	3/26	3/23	3/18	3/12

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	8/10	8/15	8/19	8/23	8/26	8/30	9/02	9/06	9/12
32	8/26	9/01	9/05	9/08	9/12	9/15	9/18	9/22	9/28
28	9/06	9/11	9/15	9/18	9/21	9/24	9/27	10/01	10/06
24	9/20	9/26	9/29	10/03	10/06	10/09	10/12	10/16	10/22
20	9/30	10/06	10/10	10/14	10/17	10/21	10/24	10/28	11/03
16	10/17	10/23	10/27	10/30	11/02	11/05	11/09	11/13	11/18

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	75	68	63	58	54	50	45	40	32
32	108	100	95	90	86	81	77	71	63
28	145	136	130	124	119	114	108	102	93
24	180	170	164	158	153	148	142	136	127
20	206	197	190	184	179	174	168	161	152
16	241	233	227	221	217	212	207	201	192

***** 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	1432	1153	1000	692	467	231	87	98	318	636	1043	1385	8542
60	1277	1013	845	542	322	126	29	36	203	483	893	1230	6999
57	1184	929	752	453	243	79	13	17	147	393	803	1137	6150
55	1122	873	690	395	197	55	7	10	114	335	743	1075	5616
50	967	734	544	260	104	17	0	2	53	204	593	920	4398
32	440	295	138	12	0	0	0	0	0	4	149	398	1436

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	30	66	161	310	559	781	1034	1012	692	391	97	36	5169
55	0	0	0	3	42	146	327	308	117	8	0	0	951
57	0	0	0	1	27	110	271	254	89	4	0	0	756
60	0	0	0	0	13	67	194	180	55	2	0	0	511
65	0	0	0	0	2	22	97	87	20	0	0	0	228
70	0	0	0	0	0	4	34	28	6	0	0	0	72

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	0	1	14	127	343	573	817	796	481	198	15	0	0	1	15	142	485	1058	1875	2671	3152	3350	3365	3365
45	0	0	1	55	209	423	662	641	338	101	0	0	0	0	1	56	265	688	1350	1991	2329	2430	2430	2430
50	0	0	0	17	108	280	507	486	212	38	0	0	0	0	0	17	125	405	912	1398	1610	1648	1648	1648
55	0	0	0	3	48	162	353	334	110	12	0	0	0	0	0	3	51	213	566	900	1010	1022	1022	1022
60	0	0	0	0	11	80	210	196	39	0	0	0	0	0	0	0	11	91	301	497	536	536	536	536
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	3	30	130	262	398	530	526	369	197	22	0	0	3	33	163	425	823	1353	1879	2248	2445	2467	2467

(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