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: KANOSH, UT **COOP ID: 424527**

Climate Division: UT 4 **NWS Call Sign:** **Elevation: 4,990 Feet** **Lat: 38˚48N** **Lon: 112˚26W**

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	40.9	17.8	29.4	65+	1969	7	37.7	2000	-16+	1963	11	19.2	1984	1105	0	.0	.0	6.2	6.9	28.6	1.9
Feb	47.6	22.9	35.3	74	1972	28	44.6	1995	-16+	1989	7	24.4	1984	834	0	.0	.0	11.6	2.2	23.0	.6
Mar	56.0	29.8	42.9	79	1972	6	50.6	1972	0	1966	5	36.1	1976	685	0	.0	.0	21.6	.3	18.0	.0
Apr	63.8	35.5	49.7	85+	1989	21	57.0	1992	15+	1967	20	42.7	1975	466	5	.0	.0	26.9	.0	10.8	.0
May	73.1	43.6	58.4	96	1996	15	65.0	1997	22	1988	2	50.4	1975	248	43	.0	.7	30.4	.0	1.9	.0
Jun	84.4	52.9	68.7	102+	1962	26	74.8	1994	29	1976	15	62.9	1995	54	164	.3	9.4	30.0	.0	.2	.0
Jul	92.0	61.4	76.7	107	1998	18	82.3	1994	41+	1968	1	73.4	1993	1	363	2.4	22.4	31.0	.0	.0	.0
Aug	89.7	59.3	74.5	106	1996	12	79.2	1994	35+	1968	23	70.4	1976	3	297	.6	17.5	31.0	.0	.0	.0
Sep	80.9	49.4	65.2	99	2000	14	69.8	1979	22	1965	18	59.2	1986	86	91	.0	3.9	30.0	.0	.6	.0
Oct	67.5	38.3	52.9	91	1996	10	60.6	1988	6	1971	30	47.3	1982	380	6	.0	.1	29.0	.0	6.5	.0
Nov	52.3	26.8	39.6	76+	1967	14	48.9	1999	1	1977	20	31.5	2000	763	0	.0	.0	18.2	1.2	21.4	.0
Dec	41.9	17.9	29.9	71	1995	1	37.7	1977	-20+	1990	23	20.3	1990	1089	0	.0	.0	6.7	5.4	28.5	1.6
Ann	65.8	38.0	51.9	107	Jul 1998	18	82.3	Jul 1994	-20+	Dec 1990	23	19.2	Jan 1984	5714	969	3.3	54.0	272.6	16.0	139.5	4.1

\+ 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: 1928-2001

(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	1.38	1.06	1.55	1944	24	3.19	1974	.22	1972
Feb	1.25	1.12	3.55	1953	9	3.68	1998	.30+	1981
Mar	1.91	2.06	2.18	1966	2	3.52	1973	.08	1997
Apr	1.82	1.50	2.10	1944	27	4.99	1999	.27	1977
May	1.58	1.43	1.78	1975	20	4.05	1995	.00	1972
Jun	.67	.42	1.90	1947	21	3.13	1998	.00+	1996
Jul	.89	.66	1.95	1975	12	3.41	1982	.00	1972
Aug	1.14	.92	1.75	1988	26	3.79	1983	.09	1980
Sep	1.05	.90	1.19	1965	17	4.26	1982	.00	1979
Oct	1.66	1.47	2.02	2000	31	4.40	2000	.04	1995
Nov	1.50	1.41	1.81	1941	18	3.55	1983	.35	1995
Dec	1.21	1.09	1.53	1987	23	3.25	1972	.09	1976
Ann	16.06	15.92	3.55	Feb 1953	9	4.99	Apr 1999	.00+	Jun 1996

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.4	4.2	.5	.1
Feb	6.7	3.8	.6	.1
Mar	8.5	5.2	1.0	.1
Apr	7.8	4.7	.8	.2
May	6.7	3.8	1.1	.2
Jun	3.6	1.9	.3	.1
Jul	5.4	2.3	.4	.1
Aug	7.0	2.9	.5	.1
Sep	5.4	2.9	.6	.1
Oct	5.9	4.1	1.0	.2
Nov	6.7	4.0	.9	.1
Dec	6.4	3.8	.4	.1
Ann	77.5	43.6	8.1	1.5

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	.27	.39	.60	.78	.97	1.18	1.41	1.69	2.05	2.64	3.21
Feb	.28	.39	.58	.74	.91	1.08	1.28	1.51	1.82	2.32	2.78
Mar	.39	.56	.84	1.10	1.36	1.64	1.95	2.33	2.82	3.62	4.38
Apr	.31	.47	.73	.98	1.24	1.51	1.83	2.21	2.73	3.56	4.35
May	.13	.31	.57	.80	1.04	1.29	1.59	1.95	2.43	3.22	3.97
Jun	.00	.00	.06	.16	.28	.42	.59	.82	1.14	1.67	2.22
Jul	.04	.11	.24	.37	.51	.67	.86	1.09	1.42	1.96	2.49
Aug	.13	.22	.38	.54	.71	.90	1.12	1.39	1.76	2.37	2.96
Sep	.06	.16	.33	.48	.64	.82	1.03	1.29	1.64	2.22	2.78
Oct	.23	.37	.61	.84	1.08	1.35	1.65	2.03	2.54	3.37	4.17
Nov	.38	.52	.73	.93	1.12	1.32	1.54	1.81	2.16	2.71	3.22
Dec	.24	.35	.52	.69	.85	1.03	1.23	1.47	1.79	2.31	2.79
Ann	10.13	11.22	12.65	13.76	14.75	15.72	16.74	17.87	19.26	21.30	23.08

\+ 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: 1928-2001
(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	14.0	12.8	4	3
Feb	12.8	9.6	3	3
Mar	10.7	11.0	1	1
Apr	8.2	7.0	#	#
May	1.2	.0	#	0
Jun	.1	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	4.4	.0	#	0
Nov	9.7	9.0	1	1
Dec	13.8	10.3	3	3
Ann	75.0	59.7	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	11.0	1978	23	34.0	1979	22	1973	20	14	1973
Feb	17.0	1998	16	32.5	1990	20	1984	17	9	1984
Mar	12.0	1973	28	30.0	1985	18	1985	29	5	1984
Apr	16.0	1999	1	28.0	1999	13+	1999	1	2	1999
May	10.0	1988	1	11.0	1988	6+	1988	1	#+	1999
Jun	4.0	1990	1	4.0	1990	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	4.0	1978	18	4.0	1978	0	0	0	0	0
Oct	21.0	1971	29	36.0	1971	21	1971	29	2	1971
Nov	14.5	1996	29	20.5	1985	21	1994	19	8	1994
Dec	23.0	1972	29	52.0	1972	25	1972	29	9	1998
Ann	23.0	Dec 1972	29	52.0	Dec 1972	25	Dec 1972	29	14	Jan 1973

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.5	4.7	2.0	.8	.2
Feb	4.2	3.6	1.6	.9	.3
Mar	3.0	2.8	1.5	.9	.2
Apr	2.3	2.2	1.2	.5	.1
May	.4	.4	.2	.1	@
Jun	@	@	@	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	@	.0	.0
Oct	1.1	1.1	.5	.3	.1
Nov	3.2	3.0	1.6	.8	.2
Dec	4.5	3.9	1.9	1.0	.1
Ann	24.2	21.7	10.5	5.3	1.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	17.9	14.9	11.2	4.8
Feb	12.3	10.0	6.9	2.1
Mar	4.0	2.4	1.5	.3
Apr	1.2	.7	.3	.1
May	.2	.1	@	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.8	.4	.3	.1
Nov	5.3	3.8	2.2	.5
Dec	15.4	10.6	6.3	1.7
Ann	57.1	42.9	28.7	9.6

+ 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	6/15	6/08	6/03	5/30	5/27	5/23	5/19	5/14	5/07
32	6/03	5/27	5/22	5/18	5/14	5/10	5/06	5/01	4/25
28	5/17	5/07	5/01	4/25	4/19	4/14	4/08	4/02	3/23
24	5/04	4/24	4/16	4/10	4/04	3/28	3/22	3/14	3/04
20	4/14	4/06	3/31	3/25	3/20	3/16	3/10	3/04	2/24
16	4/05	3/25	3/18	3/11	3/05	2/27	2/21	2/14	2/03

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	9/12	9/17	9/21	9/25	9/28	10/01	10/04	10/08	10/13
32	9/22	9/28	10/03	10/07	10/11	10/15	10/19	10/23	10/30
28	10/05	10/11	10/16	10/20	10/23	10/27	10/31	11/05	11/11
24	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/10	11/15
20	10/29	11/03	11/07	11/10	11/12	11/15	11/18	11/21	11/26
16	11/04	11/10	11/14	11/17	11/20	11/23	11/27	12/01	12/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	148	140	134	128	123	118	113	107	98
32	178	168	161	155	149	143	137	130	120
28	222	209	201	193	186	179	172	163	151
24	248	235	226	218	211	204	196	187	174
20	265	255	248	242	236	230	224	217	208
16	288	278	271	265	259	253	247	240	230

***** 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	1105	834	685	466	248	54	1	3	86	380	763	1089	5714
60	950	694	532	329	149	18	0	0	32	247	615	934	4500
57	857	610	445	255	102	8	0	0	14	180	530	841	3842
55	797	555	388	211	76	5	0	0	8	141	474	779	3434
50	653	426	258	122	31	1	0	0	1	69	344	625	2530
32	223	90	19	1	0	0	0	0	0	1	53	178	565

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	141	180	357	531	817	1100	1385	1316	995	650	280	113	7865
55	2	2	14	50	181	415	672	603	312	77	12	0	2340
57	0	0	9	34	145	358	610	541	259	54	7	0	2017
60	0	0	2	18	98	278	517	448	186	28	3	0	1578
65	0	0	0	5	43	164	363	297	91	6	0	0	969
70	0	0	0	0	15	79	219	160	32	0	0	0	505

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	21	62	168	323	593	891	1166	1101	792	443	122	22	21	83	251	574	1167	2058	3224	4325	5117	5560	5682	5704
45	0	23	80	207	444	741	1011	946	643	304	58	3	0	23	103	310	754	1495	2506	3452	4095	4399	4457	4460
50	0	3	32	110	303	591	856	791	495	193	18	0	0	3	35	145	448	1039	1895	2686	3181	3374	3392	3392
55	0	1	5	47	183	445	701	636	357	98	1	0	0	1	6	53	236	681	1382	2018	2375	2473	2474	2474
60	0	0	0	17	94	305	546	481	224	39	0	0	0	0	0	17	111	416	962	1443	1667	1706	1706	1706
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	18	49	123	217	384	578	752	723	522	293	94	20	18	67	190	407	791	1369	2121	2844	3366	3659	3753	3773

(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