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: WELLS, NV **COOP ID: 268988**

Climate Division: NV 2 **NWS Call Sign:** **Elevation: 5,700 Feet** **Lat: 41˚06N** **Lon: 114˚58W**

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	36.7	12.6	24.7	62	1990	9	31.3	1981	-29+	1949	25	14.3	1989	1250	0	.0	.0	1.8	10.9	30.1	5.8
Feb	41.4	17.1	29.3	67	1951	10	37.8	1991	-32	1949	13	20.6	1993	1000	0	.0	.0	4.6	5.4	27.1	3.4
Mar	49.0	23.7	36.4	72	1997	20	42.1	1986	-19	1966	4	31.0	1977	889	0	.0	.0	14.0	1.1	27.5	.4
Apr	57.4	28.0	42.7	83	1992	29	48.6	1992	4	1975	8	34.9	1975	670	0	.0	.0	21.8	.3	22.5	.0
May	66.9	34.8	50.9	92	1954	19	56.5	1992	9	1961	5	46.3	1977	440	1	.0	.0	29.0	.0	11.4	.0
Jun	78.1	42.0	60.1	100	1954	22	64.8	1977	16	1954	2	55.0	1995	183	34	.0	2.3	29.8	.0	2.6	.0
Jul	87.3	48.0	67.7	101+	1951	18	70.9	1985	28	1954	22	59.9	1993	38	119	@	11.3	31.0	.0	.3	.0
Aug	85.5	46.1	65.8	100	1954	2	69.0+	1991	21	1964	29	62.1	1976	58	83	.0	7.4	31.0	.0	.9	.0
Sep	75.3	37.6	56.5	100	1950	4	62.4	1990	10	1965	18	51.3	1986	265	10	.0	.4	29.6	.0	7.9	.0
Oct	62.6	27.9	45.3	85	1950	11	51.3	1988	-9	1970	27	40.0	1984	613	0	.0	.0	25.9	.3	22.4	.1
Nov	46.8	19.8	33.3	76	1949	5	39.5	1995	-15+	1964	18	24.0	1994	951	0	.0	.0	11.4	3.4	27.5	1.5
Dec	37.9	12.3	25.1	61+	1958	3	32.8	1981	-36	1990	23	16.0	1990	1237	0	.0	.0	2.6	9.0	30.0	5.4
Ann	60.4	29.2	44.8	101+	Jul 1951	18	70.9	Jul 1985	-36	Dec 1990	23	14.3	Jan 1989	7594	247	@	21.4	232.5	30.4	210.2	16.6

\+ 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	.89	.68	.98	1963	30	2.86	1996	.09	1985
Feb	.86	.85	.70	1980	18	1.74	1986	.02	1988
Mar	1.03	.83	1.00	1998	28	2.87	1989	.13	1994
Apr	.94	.93	1.10	1963	27	2.51	1986	.13	1987
May	1.23	.79	1.61	1971	4	5.14	1971	.16	1974
Jun	.88	.67	1.05	1999	2	2.45	1992	.00	1994
Jul	.43	.37	1.08	1952	30	1.32	1975	.00+	2000
Aug	.41	.26	1.10	1965	18	1.51	1983	.00+	1996
Sep	.94	.45	1.30+	1982	26	4.32	1983	.00+	1992
Oct	.78	.61	1.05	1974	28	2.21	1972	.00	1988
Nov	.98	.94	1.10	1958	14	2.84	1983	.14	1976
Dec	.85	.61	1.11	1981	20	3.53	1996	.04	1976
Ann	10.22	9.14	1.61	May 1971	4	5.14	May 1971	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.4	3.0	.3	.0
Feb	7.1	3.0	.1	.0
Mar	7.9	3.5	.3	@
Apr	7.0	3.5	.3	.0
May	7.3	3.8	.3	.1
Jun	5.1	2.6	.3	@
Jul	3.6	1.3	.1	.0
Aug	3.0	1.4	.1	.0
Sep	4.6	2.4	.5	.1
Oct	5.0	2.7	.3	@
Nov	7.0	3.2	.3	.0
Dec	6.7	3.0	.2	@
Ann	71.7	33.4	3.1	.2

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	.13	.20	.33	.45	.58	.73	.89	1.09	1.36	1.80	2.23
Feb	.11	.18	.30	.42	.55	.69	.85	1.05	1.32	1.76	2.19
Mar	.20	.30	.45	.59	.73	.88	1.05	1.26	1.53	1.97	2.39
Apr	.15	.23	.37	.50	.63	.78	.94	1.15	1.42	1.86	2.28
May	.14	.23	.40	.58	.76	.97	1.21	1.51	1.92	2.59	3.24
Jun	.01	.05	.15	.26	.40	.57	.78	1.05	1.45	2.12	2.81
Jul	.00	.00	.08	.16	.23	.32	.42	.54	.71	.99	1.27
Aug	.00	.00	.03	.10	.18	.27	.37	.51	.69	1.00	1.31
Sep	.00	.00	.07	.19	.34	.53	.77	1.10	1.58	2.43	3.30
Oct	.01	.06	.15	.26	.38	.53	.71	.95	1.28	1.84	2.41
Nov	.20	.28	.43	.56	.69	.83	.99	1.19	1.44	1.85	2.24
Dec	.04	.08	.18	.29	.42	.58	.77	1.02	1.37	1.97	2.57
Ann	5.59	6.40	7.48	8.34	9.12	9.89	10.71	11.63	12.77	14.47	15.98

\+ 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	7.0	6.3	4	2
Feb	8.6	9.0	3	2
Mar	7.8	6.0	1	#
Apr	3.9	2.2	#	#
May	1.8	.0	#	0
Jun	#	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	#	0
Oct	1.3	.0	#	0
Nov	6.0	4.0	1	#
Dec	9.5	7.6	2	2
Ann	46.0	35.1	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	1996	24	19.1	1993	26+	1996	31	18	1993
Feb	11.5	1989	2	17.1	1984	35	1996	4	19	1993
Mar	16.0	1998	28	22.1	1985	18	1993	1	7	1984
Apr	10.0	1999	6	18.0	1999	8	1975	6	2	1975
May	7.6	1975	4	11.5	1975	2	1977	16	#+	1999
Jun	#	1995	5	#+	1995	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	1.2	1978	17	1.7	1982	1	1978	17	#	1978
Oct	4.0	2000	29	6.8	1971	5	1971	31	#+	2000
Nov	10.0	1983	20	23.1	1983	12	1983	20	4	1994
Dec	12.0	1996	21	40.9	1983	16	1996	24	10	1983
Ann	16.0	Mar 1998	28	40.9	Dec 1983	35	Feb 1996	4	19	Feb 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.7	3.1	.9	.3	@
Feb	4.9	2.9	.9	.3	@
Mar	4.2	2.7	.8	.3	@
Apr	2.2	1.5	.3	.1	@
May	.8	.5	.2	.1	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.2	.1	.0	.0	.0
Oct	.9	.5	.1	.0	.0
Nov	4.0	2.3	.5	.1	@
Dec	5.0	3.3	.8	.3	@
Ann	27.9	16.9	4.5	1.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	18.3	11.0	7.9	2.5
Feb	13.4	8.7	5.5	2.3
Mar	6.1	3.2	1.6	.5
Apr	.9	.3	.1	.0
May	.2	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	@	.0	.0	.0
Oct	.6	.2	@	.0
Nov	6.6	2.7	1.1	.1
Dec	15.3	7.2	3.7	1.3
Ann	61.4	33.3	19.9	6.7

+ 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	7/19	7/13	7/08	7/05	7/01	6/28	6/24	6/19	6/13
32	7/06	6/30	6/26	6/22	6/18	6/15	6/11	6/06	5/31
28	6/18	6/12	6/07	6/04	5/31	5/27	5/23	5/19	5/13
24	6/06	5/30	5/25	5/20	5/16	5/12	5/07	5/02	4/25
20	5/19	5/14	5/10	5/06	5/03	4/30	4/27	4/23	4/17
16	5/07	4/29	4/23	4/18	4/13	4/08	4/03	3/28	3/20

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	8/05	8/11	8/16	8/20	8/24	8/28	9/01	9/05	9/12
32	8/14	8/21	8/26	8/30	9/03	9/07	9/11	9/16	9/23
28	8/30	9/05	9/09	9/13	9/17	9/20	9/24	9/29	10/05
24	9/06	9/13	9/17	9/22	9/26	9/30	10/04	10/09	10/16
20	9/24	9/29	10/03	10/07	10/10	10/13	10/16	10/20	10/25
16	9/26	10/02	10/07	10/11	10/14	10/18	10/22	10/27	11/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	72	65	59	53	47	41	34	24
32	107	96	89	82	76	70	64	56	46
28	134	125	119	113	108	103	97	91	82
24	163	153	145	138	132	126	119	111	101
20	178	171	167	162	159	155	151	146	139
16	216	205	197	190	183	177	170	162	151

***** 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	1250	1000	889	670	440	183	38	58	265	613	951	1237	7594
60	1095	860	734	520	294	91	8	13	147	458	801	1082	6103
57	1002	776	641	433	215	53	2	4	92	367	711	989	5285
55	940	720	579	376	169	34	1	2	63	308	651	927	4770
50	785	580	425	245	80	8	0	0	19	177	505	772	3596
32	294	171	47	11	0	0	0	0	0	3	106	267	899

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	67	95	182	331	584	841	1104	1048	735	413	145	53	5598
55	0	0	0	7	40	185	392	337	108	5	0	0	1074
57	0	0	0	3	24	143	331	277	76	2	0	0	856
60	0	0	0	0	10	92	244	193	41	0	0	0	580
65	0	0	0	0	1	34	119	83	10	0	0	0	247
70	0	0	0	0	0	8	40	21	1	0	0	0	70

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	5	41	136	341	597	854	800	498	200	31	1	0	5	46	182	523	1120	1974	2774	3272	3472	3503	3504
45	0	0	6	59	211	449	699	645	352	98	5	0	0	0	6	65	276	725	1424	2069	2421	2519	2524	2524
50	0	0	0	18	109	309	544	490	221	34	0	0	0	0	0	18	127	436	980	1470	1691	1725	1725	1725
55	0	0	0	2	43	180	392	338	113	6	0	0	0	0	0	2	45	225	617	955	1068	1074	1074	1074
60	0	0	0	0	6	86	244	193	39	0	0	0	0	0	0	0	6	92	336	529	568	568	568	568
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	10	56	139	267	414	556	538	385	213	46	0	0	10	66	205	472	886	1442	1980	2365	2578	2624	2624

(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