

Climatography of the United States

No. 20

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

Station: WILDROSE 3 NW, ND

1971-2000

COOP ID: 329400

Climate Division: ND 1

NWS Call Sign:

Elevation: 2,260 Feet Lat: 48°40N

Lon: 103°13W

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	15.8	-3.6	6.1	48+	1998	2	20.6	1990	-41	1966	29	-11.3	1982	1827	0	.0	.0	.0	25.1	30.9	17.9
Feb	23.3	4.2	13.8	63	1992	28	25.9	1998	-41	1996	1	-2.2	1979	1435	0	.0	.0	.5	18.4	28.1	11.2
Mar	35.4	15.6	25.5	73	1986	29	36.1	1986	-28	1972	2	16.2	1996	1224	0	.0	.0	4.8	11.6	29.8	4.7
Apr	52.7	28.6	40.7	91+	2001	29	48.9	1987	-16	1975	2	30.7	1979	731	0	.0	.1	18.1	2.2	20.3	.2
May	66.1	40.8	53.5	99	1980	23	60.4	1977	16	1963	3	46.7	1979	373	14	.0	.4	28.4	.1	5.3	.0
Jun	74.8	50.0	62.4	103	1988	21	74.2	1988	27	1964	1	56.8	1985	150	72	.2	1.9	29.9	.0	.1	.0
Jul	80.2	54.0	67.1	104	1989	9	72.2	1989	39+	1993	12	60.4	1993	67	131	.3	4.5	31.0	.0	.0	.0
Aug	80.0	51.5	65.8	103	1989	1	72.7	1983	28	1964	12	58.3	1977	111	133	.2	5.0	30.9	.0	@	.0
Sep	67.5	41.1	54.3	100+	1998	5	61.4	1998	15	1965	26	47.8	1984	340	19	.1	1.1	27.6	@	3.8	.0
Oct	54.2	29.6	41.9	91	1992	2	45.8	1973	-3	1991	30	37.8	1972	716	0	.0	@	20.1	1.4	19.3	.1
Nov	33.6	15.6	24.6	73	1990	1	35.4	1999	-27	1964	29	12.2	1985	1213	0	.0	.0	4.3	13.8	28.7	4.0
Dec	20.9	2.3	11.6	54	1979	5	23.1	1997	-42	1983	23	-4.9	1983	1655	0	.0	.0	.1	22.8	31.0	12.8
Ann	50.4	27.5	38.9	104	Jul 1989	9	74.2	Jun 1988	-42	Dec 1983	23	-11.3	Jan 1982	9842	369	.8	13.0	195.7	95.4	197.3	50.9

+ 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

Issue Date: February 2004

(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

093-A

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Station: WILDROSE 3 NW, ND

COOP ID: 329400

Climate Division: ND 1

NWS Call Sign:

Elevation: 2,260 Feet Lat: 48°40N

Lon: 103°13W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.42	.38	.45+	1999	21	1.07	1999	.02	1973	6.9	1.4	.0	.0	.09	.13	.19	.25	.30	.36	.43	.51	.62	.79	.95
Feb	.35	.22	.72	1998	26	1.57	1998	.02	1971	5.1	1.1	@	.0	.02	.05	.09	.14	.19	.25	.33	.42	.56	.78	1.00
Mar	.60	.51	.72	1993	28	1.67+	1976	.06	1977	6.3	2.1	.1	.0	.11	.16	.25	.33	.41	.50	.61	.73	.90	1.17	1.43
Apr	1.00	.84	1.12	1984	28	3.79	1975	.08	1997	6.5	3.0	.5	@	.12	.20	.34	.48	.63	.79	.98	1.22	1.55	2.08	2.60
May	2.04	1.74	2.27	1965	6	5.18	1978	.00	1980	9.0	5.0	1.0	.5	.31	.58	.93	1.21	1.49	1.79	2.12	2.51	3.03	3.84	4.60
Jun	2.56	2.21	1.87	1998	19	5.66	1994	.64	1979	10.5	6.3	1.7	.3	.84	1.08	1.44	1.74	2.03	2.34	2.67	3.05	3.55	4.33	5.04
Jul	2.83	2.33	3.86	1996	20	8.43	1993	.31	1994	9.2	5.4	1.7	.6	.44	.68	1.09	1.48	1.89	2.33	2.84	3.46	4.29	5.65	6.95
Aug	1.56	1.31	2.20	1985	16	5.01	1985	.03	1979	6.9	3.6	.8	.3	.13	.23	.43	.65	.89	1.16	1.48	1.89	2.46	3.41	4.35
Sep	1.48	1.37	2.15	1975	19	4.00	1975	.08	1974	6.3	3.6	.9	.2	.20	.32	.53	.74	.96	1.20	1.47	1.81	2.27	3.03	3.76
Oct	.83	.54	1.74	1953	22	2.81	1971	.03	1993	4.4	2.5	.4	.1	.06	.11	.22	.33	.46	.61	.78	1.01	1.32	1.85	2.37
Nov	.53	.45	1.85	2000	2	3.09	2000	.00	1999	4.7	1.5	.1	@	.02	.07	.14	.22	.30	.40	.51	.65	.84	1.15	1.46
Dec	.45	.44	.84	1965	31	1.12	1973	.00+	1997	6.1	1.4	@	.0	.00	.06	.15	.22	.30	.37	.46	.56	.70	.93	1.14
Ann	14.65	14.16	3.86	Jul 1996	20	8.43	Jul 1993	.00+	Nov 1999	81.9	36.9	7.2	2.0	9.54	10.50	11.74	12.70	13.56	14.39	15.26	16.23	17.41	19.15	20.66

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: WILDROSE 3 NW, ND

COOP ID: 329400

Climate Division: ND 1

NWS Call Sign:

Elevation: 2,260 Feet

Lat: 48° 40N

Lon: 103° 13W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	6.4	5.3	6	5	7.0	1989	6	16.3	1982	25	1997	3	16	1997	6.1	2.6	.6	.1	.0	26.4	21.5	9.4	4.1
Feb	4.3	3.0	5	3	10.0	1998	26	16.9	1972	22	1998	28	15	1982	4.4	2.1	.2	.1	@	17.8	12.8	7.8	2.8
Mar	5.6	5.0	3	1	8.0	1975	28	23.0	1976	26	1998	1	15	1998	3.3	2.2	.7	.2	.0	10.3	7.9	6.2	3.6
Apr	3.1	1.8	1	#	9.0	1984	28	11.0+	1984	16	1975	1	7	1975	1.3	1.0	.4	.1	.0	2.7	1.7	1.2	.5
May	.5	.0	#	0	4.7	1990	1	5.0	1983	5	1990	1	#+	2000	.2	.2	.1	.0	.0	.2	.1	@	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	#	0	.0	0	0	.0	0	#	1992	9	#	1992	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.1	.0	#	0	2.0	1984	24	2.0	1984	2	1984	24	#+	1995	.1	@	.0	.0	.0	.1	.0	.0	.0
Oct	1.5	.0	#	#	7.0	1991	28	9.7	1991	8	1985	8	1	1985	.7	.5	.2	.1	.0	1.5	.5	.3	.0
Nov	4.9	4.0	2	1	13.0	1996	19	20.0	2000	17	1996	24	10	2000	3.1	1.9	.6	.2	@	9.3	4.8	3.2	1.0
Dec	6.2	6.4	4	3	10.0	1998	5	14.5	1998	26	1996	30	16	1996	4.7	2.3	.6	.1	@	21.1	13.4	7.6	2.2
Ann	32.6	25.5	N/A	N/A	13.0	Nov 1996	19	23.0	Mar 1976	26+	Mar 1998	1	16+	Jan 1997	23.9	12.8	3.4	.9	@	89.4	62.7	35.7	14.2

+ 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

Complete documentation available from:

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Climate Division: ND 1

NWS Call Sign:

Elevation: 2,260 Feet

Lat: 48° 40N

Lon: 103° 13W

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	6/09	6/03	5/31	5/28	5/25	5/22	5/18	5/15	5/10
32	5/27	5/23	5/20	5/17	5/15	5/13	5/10	5/07	5/03
28	5/19	5/14	5/11	5/08	5/06	5/03	4/30	4/27	4/23
24	5/13	5/08	5/04	5/01	4/28	4/24	4/21	4/17	4/12
20	4/30	4/26	4/22	4/19	4/16	4/13	4/10	4/07	4/02
16	4/17	4/13	4/10	4/07	4/04	4/02	3/30	3/27	3/23
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	8/24	8/29	9/01	9/04	9/07	9/10	9/13	9/17	9/21
32	9/05	9/09	9/12	9/15	9/17	9/20	9/23	9/26	9/30
28	9/14	9/18	9/21	9/24	9/26	9/29	10/01	10/04	10/08
24	9/22	9/27	10/01	10/04	10/07	10/10	10/13	10/17	10/22
20	10/02	10/08	10/12	10/15	10/18	10/22	10/25	10/29	11/04
16	10/08	10/14	10/19	10/22	10/26	10/29	11/02	11/06	11/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	126	119	114	109	105	101	96	91	84
32	143	137	132	128	125	121	117	112	106
28	161	155	150	146	143	139	135	131	125
24	184	176	171	166	162	158	153	147	140
20	207	199	194	189	185	180	175	170	162
16	225	218	212	208	204	200	195	190	183

* 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

Complete documentation available from:

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Station: WILDROSE 3 NW, ND

COOP ID: 329400

Climate Division: ND 1 NWS Call Sign: Elevation: 2,260 Feet Lat: 48°40N Lon: 103°13W

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	1827	1435	1224	731	373	150	67	111	340	716	1213	1655	9842
60	1672	1295	1069	586	246	75	20	51	220	561	1063	1500	8358
57	1579	1211	976	501	183	43	9	29	159	469	973	1407	7539
55	1517	1155	914	448	146	28	5	19	124	407	913	1345	7021
50	1362	1017	770	322	74	8	0	5	56	261	763	1190	5828
32	841	564	311	51	1	0	0	0	0	13	304	673	2758

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	37	53	110	309	665	912	1087	1046	669	320	82	41	5331
55	0	0	0	16	97	250	379	352	103	1	0	0	1198
57	0	0	0	10	72	205	321	299	78	0	0	0	985
60	0	0	0	4	42	147	239	228	49	0	0	0	709
65	0	0	0	0	14	72	131	133	19	0	0	0	369
70	0	0	0	0	3	26	56	64	6	0	0	0	155

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	11	144	439	684	849	807	448	167	13	0	0	1	12	156	595	1279	2128	2935	3383	3550	3563	3563
45	0	0	1	77	303	534	694	652	311	88	6	0	0	0	1	78	381	915	1609	2261	2572	2660	2666	2666
50	0	0	0	34	184	385	539	498	193	37	0	0	0	0	0	34	218	603	1142	1640	1833	1870	1870	1870
55	0	0	0	13	96	250	385	350	103	10	0	0	0	0	0	13	109	359	744	1094	1197	1207	1207	1207
60	0	0	0	3	43	135	241	217	48	2	0	0	0	0	0	3	46	181	422	639	687	689	689	689
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	12	114	275	415	534	507	281	127	15	0	0	1	13	127	402	817	1351	1858	2139	2266	2281	2281

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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