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: SWAN FALLS P H, ID **COOP ID: 108928**

Climate Division: ID 5 **NWS Call Sign:** **Elevation: 2,325 Feet** **Lat: 43˚15N** **Lon: 116˚23W**

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	39.6	23.5	31.6	67	1953	25	39.5	1998	-15	1962	23	20.0	1979	1037	0	.0	.0	5.2	5.7	24.4	.7
Feb	48.0	27.9	38.0	74	1986	26	43.3	1986	-13	1989	7	27.2	1989	758	0	.0	.0	14.4	2.0	18.4	.2
Mar	58.2	34.7	46.5	85	1966	30	51.7	1986	13	1976	2	40.6	1985	575	0	.0	.0	27.5	.0	9.8	.0
Apr	66.6	40.8	53.7	96	1977	24	60.2	1987	20	1951	29	46.9	1975	351	11	.0	.4	29.7	.0	3.2	.0
May	75.7	48.5	62.1	103	1986	30	67.7	1992	28	1997	2	58.5	1977	144	55	.3	3.9	31.0	.0	.2	.0
Jun	85.6	56.1	70.9	109+	1988	20	77.0	1986	29	1995	7	66.4	1993	32	206	3.1	12.5	30.0	.0	.1	.0
Jul	94.5	62.7	78.6	112+	1967	12	84.3	1985	42	1986	5	69.7	1993	2	423	9.5	24.6	31.0	.0	.0	.0
Aug	93.3	61.0	77.2	115	1990	6	81.9	1971	41	1951	25	71.8	1976	3	379	8.5	24.0	31.0	.0	.0	.0
Sep	83.0	51.4	67.2	108	1950	3	73.1	1990	29	1965	18	61.2	1985	68	133	.7	9.3	30.0	.0	.1	.0
Oct	69.2	41.3	55.3	98	1992	1	63.6	1988	22+	1991	31	50.7	1984	309	7	.0	.4	30.6	.0	3.0	.0
Nov	50.8	31.1	41.0	79+	2000	2	48.2	1999	3	1955	15	31.6	1985	721	0	.0	.0	18.6	.5	14.4	.0
Dec	40.2	23.9	32.1	69	1964	22	38.6	1973	-21	1990	22	16.9	1985	1022	0	.0	.0	5.1	4.9	25.1	.9
Ann	67.1	41.9	54.5	115	Aug 1990	6	84.3	Jul 1985	-21	Dec 1990	22	16.9	Dec 1985	5022	1214	22.1	75.1	284.1	13.1	98.7	1.8

\+ 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	.83	.78	.68	1963	31	1.85	1972	.11	1985
Feb	.59	.48	.78	1986	23	2.19	1986	.10	1973
Mar	.96	.91	.92	1981	20	2.34	1983	.02	1992
Apr	1.01	.91	1.35	1981	20	3.32	1981	.18	1974
May	1.06	.82	1.35	1958	12	3.48	1998	.04	1992
Jun	.68	.45	1.59	1954	10	2.25	1984	.04	2000
Jul	.29	.22	1.04	1975	13	1.36	1983	.00+	2000
Aug	.22	.12	1.07	1968	17	.97	1979	.00+	1998
Sep	.53	.30	1.49	1986	9	2.86	1986	.00+	1999
Oct	.53	.54	.56	1975	7	1.60	1975	.00	1988
Nov	.89	.82	.75	1967	19	2.23	1988	.12	1976
Dec	.81	.62	1.40	1994	3	2.39	1996	.00	1989
Ann	8.40	8.35	1.59	Jun 1954	10	3.48	May 1998	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.8	2.8	.2	.0
Feb	7.1	2.3	@	.0
Mar	8.6	3.3	.2	.0
Apr	8.2	3.5	.3	.1
May	6.8	3.5	.3	.1
Jun	5.7	2.3	.2	.0
Jul	2.5	.8	.1	@
Aug	2.4	.8	.0	.0
Sep	3.5	1.8	.1	@
Oct	4.7	2.0	.1	.0
Nov	8.9	3.2	.1	.0
Dec	8.5	2.8	.1	@
Ann	75.7	29.1	1.7	.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	.20	.28	.40	.51	.61	.72	.85	1.00	1.19	1.50	1.80
Feb	.13	.18	.27	.34	.42	.51	.60	.71	.86	1.10	1.32
Mar	.18	.27	.41	.54	.67	.81	.97	1.17	1.43	1.84	2.24
Apr	.20	.29	.43	.57	.71	.85	1.02	1.22	1.49	1.92	2.33
May	.10	.17	.32	.47	.63	.81	1.02	1.29	1.67	2.28	2.89
Jun	.07	.12	.22	.31	.42	.53	.66	.83	1.06	1.44	1.81
Jul	.00	.00	.00	.01	.07	.13	.22	.34	.50	.80	1.09
Aug	.00	.00	.00	.04	.09	.14	.20	.27	.37	.55	.72
Sep	.00	.00	.00	.09	.20	.32	.47	.65	.92	1.37	1.82
Oct	.01	.03	.09	.17	.25	.35	.47	.63	.86	1.25	1.64
Nov	.22	.31	.44	.55	.66	.78	.91	1.07	1.28	1.60	1.90
Dec	.06	.14	.27	.39	.51	.65	.80	1.00	1.25	1.68	2.08
Ann	5.06	5.66	6.45	7.07	7.62	8.17	8.74	9.38	10.17	11.33	12.35

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.9	.4	#	0	7.0	1993	9	7.0	1993	7	1993	9	5	1984	1.2	.4	.1	.1	.0	2.2	.0	.0	.0
Feb	.2	.0	#	0	3.0	1993	18	3.0	1993	2+	1993	16	#+	1993	.4	.2	.1	.0	.0	.1	.0	.0	.0
Mar	.1	.0	#	0	1.5	1971	17	1.5+	1976	#+	1977	28	#+	1977	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1972	13	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.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	0	0	0	0	0	0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	2.5	1985	24	2.5	1985	5	1985	28	1	1985	.2	.1	.0	.0	.0	.2	.0	.0	.0
Dec	1.4	.9	1	#	4.5	1998	25	4.8	1988	8	1985	2	8	1985	1.2	.5	.1	.0	.0	1.2	.1	.1	.0
Ann	2.8	1.3	N/A	N/A	7.0	Jan 1993	9	7.0	Jan 1993	8	Dec 1985	2	8	Dec 1985	3.1	1.3	.3	.1	.0	3.7	.1	.1	.0

+ 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	5/26	5/19	5/14	5/10	5/06	5/02	4/28	4/23	4/17
32	5/20	5/10	5/03	4/27	4/21	4/15	4/09	4/02	3/23
28	4/23	4/14	4/08	4/03	3/29	3/24	3/18	3/12	3/03
24	3/30	3/20	3/13	3/07	3/01	2/24	2/18	2/11	2/01
20	3/17	3/07	2/28	2/21	2/16	2/10	2/04	1/28	1/18
16	3/06	2/22	2/13	2/05	1/30	1/23	1/15	1/07	12/26

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	9/21	9/27	10/01	10/04	10/08	10/11	10/15	10/19	10/24
32	10/03	10/09	10/13	10/16	10/20	10/23	10/26	10/30	11/05
28	10/11	10/19	10/24	10/28	11/01	11/05	11/10	11/15	11/22
24	10/24	11/01	11/06	11/11	11/15	11/20	11/24	11/30	12/07
20	11/08	11/15	11/20	11/25	11/29	12/03	12/08	12/13	12/22
16	11/17	11/27	12/04	12/10	12/16	12/22	12/28	1/05	1/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	172	165	159	154	149	143	136	127
32	216	204	195	188	181	174	167	158	146
28	249	238	230	223	217	210	204	196	184
24	294	281	273	265	258	251	243	235	222
20	326	311	301	293	285	278	270	261	249
16	>365	356	339	327	317	308	299	288	273

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1037	758	575	351	144	32	2	3	68	309	721	1022	5022
60	882	618	422	226	65	8	0	0	23	179	571	867	3861
57	789	534	333	164	35	3	0	0	10	117	484	774	3243
55	727	480	277	130	21	1	0	0	5	83	429	712	2865
50	582	351	155	61	5	0	0	0	0	30	297	568	2049
32	164	49	2	0	0	0	0	0	0	0	33	158	406

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	150	215	449	651	934	1164	1445	1400	1056	721	302	159	8646
55	0	2	12	90	243	475	732	687	370	91	8	0	2710
57	0	0	6	65	194	417	670	625	315	63	3	0	2358
60	0	0	2	37	131	332	577	532	238	32	0	0	1881
65	0	0	0	11	55	206	423	379	133	7	0	0	1214
70	0	0	0	2	16	111	280	238	61	1	0	0	709

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	30	84	249	442	713	944	1213	1178	826	492	144	30	30	114	363	805	1518	2462	3675	4853	5679	6171	6315	6345
45	1	28	126	295	558	794	1058	1023	676	343	65	6	1	29	155	450	1008	1802	2860	3883	4559	4902	4967	4973
50	0	3	50	171	406	644	903	868	527	212	23	1	0	3	53	224	630	1274	2177	3045	3572	3784	3807	3808
55	0	0	9	81	267	494	748	713	383	105	3	0	0	0	9	90	357	851	1599	2312	2695	2800	2803	2803
60	0	0	0	32	152	348	593	558	248	47	0	0	0	0	0	32	184	532	1125	1683	1931	1978	1978	1978
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	10	54	159	280	443	588	750	723	522	320	80	10	10	64	223	503	946	1534	2284	3007	3529	3849	3929	3939

(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