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: EMMETT 2 E, ID **COOP ID: 102942**

Climate Division: ID 5 **NWS Call Sign:** **Elevation: 2,390 Feet** **Lat: 43˚51N** **Lon: 116˚28W**

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	36.6	23.0	29.8	63+	1997	1	37.9	1998	-27	1962	23	16.8	1979	1090	0	.0	.0	2.7	9.3	26.7	1.8
Feb	44.9	27.8	36.4	70+	1986	26	42.3	1992	-16	1979	2	20.3	1989	801	0	.0	.0	10.0	3.0	21.7	.7
Mar	55.0	32.9	44.0	82	1978	29	49.3	1978	6+	1965	19	38.1	1985	653	0	.0	.0	24.5	.2	17.8	.0
Apr	63.2	37.9	50.6	94	1977	23	56.2	1977	19	1975	1	44.3	1975	435	2	.0	.1	28.8	.0	9.2	.0
May	72.2	45.0	58.6	100	1966	26	63.5	1992	23	1982	5	54.4	1991	220	22	.0	1.6	30.9	.0	2.3	.0
Jun	81.3	52.2	66.8	107	1961	17	74.1	1974	30+	1962	6	61.1	1993	80	133	.6	6.8	30.0	.0	@	.0
Jul	89.9	58.0	74.0	109	1994	23	79.5	1985	35	1955	2	63.9	1993	16	294	3.3	19.2	31.0	.0	.0	.0
Aug	88.9	56.8	72.9	109	1961	4	78.1	1986	31	1960	28	67.2	1993	16	259	2.0	17.6	31.0	.0	.0	.0
Sep	78.7	48.5	63.6	101+	1998	4	70.2	1990	22	1965	18	56.7	1985	123	80	@	4.2	30.0	.0	.7	.0
Oct	65.9	39.1	52.5	95	1992	2	59.6	1988	14	1971	29	48.3	1985	390	2	.0	.1	30.3	.0	7.7	.0
Nov	48.5	30.5	39.5	74+	1988	2	45.5	1999	-13	1955	15	28.4	1985	764	0	.0	.0	14.5	1.3	19.7	.1
Dec	37.7	24.0	30.9	66	1964	22	38.6	1973	-22	1972	10	15.0	1985	1058	0	.0	.0	3.7	7.1	26.9	1.9
Ann	63.6	39.6	51.6	109+	Jul 1994	23	79.5	Jul 1985	-27	Jan 1962	23	15.0	Dec 1985	5646	792	5.9	49.6	267.4	20.9	132.7	4.5

\+ 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	1.72	1.61	1.35	1956	15	3.59	1997	.26	1985
Feb	1.60	1.57	1.60	1976	16	3.81	1986	.41	1988
Mar	1.58	1.40	.99	1993	18	4.23	1993	.04	1994
Apr	1.21	1.21	1.29	1951	28	3.29	1978	.13	1987
May	1.29	.97	1.58	1990	29	4.67	1998	.00	1974
Jun	.82	.67	1.20	1976	11	2.23	1993	.08	1994
Jul	.30	.24	.60	1985	31	1.25	1983	.00+	2000
Aug	.33	.16	1.01	1989	14	1.66	1989	.00+	2000
Sep	.71	.47	2.47	1959	14	2.91	1986	.00+	1999
Oct	.87	.77	1.00	1982	29	2.26	2000	.00+	1988
Nov	1.72	1.30	.94	1971	26	3.94	1984	.12	1976
Dec	1.66	1.55	.90	1981	19	4.54	1996	.00	1976
Ann	13.81	13.23	2.47	Sep 1959	14	4.67	May 1998	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	5.6	.6	@
Feb	9.7	5.1	.5	@
Mar	9.8	5.4	.5	.0
Apr	8.4	4.0	.3	.0
May	7.0	3.7	.5	.1
Jun	5.2	2.6	.3	.1
Jul	2.2	1.0	.1	.0
Aug	2.5	1.0	.1	@
Sep	3.9	2.1	.4	@
Oct	5.2	2.7	.3	@
Nov	10.7	5.4	.7	.0
Dec	9.8	5.1	.7	.0
Ann	84.3	43.7	5.0	.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	.49	.66	.90	1.12	1.32	1.54	1.78	2.07	2.43	3.01	3.54
Feb	.38	.53	.76	.97	1.18	1.40	1.64	1.94	2.32	2.94	3.51
Mar	.26	.39	.62	.84	1.07	1.31	1.59	1.93	2.38	3.12	3.82
Apr	.26	.37	.55	.71	.87	1.04	1.23	1.46	1.77	2.26	2.72
May	.07	.20	.40	.59	.79	1.01	1.27	1.59	2.03	2.74	3.44
Jun	.09	.15	.27	.38	.50	.64	.80	1.00	1.27	1.72	2.16
Jul	.00	.00	.02	.07	.12	.19	.27	.37	.51	.74	.98
Aug	.00	.00	.02	.06	.11	.18	.27	.39	.57	.88	1.20
Sep	.00	.00	.02	.12	.24	.40	.59	.85	1.22	1.85	2.51
Oct	.00	.00	.28	.43	.57	.73	.90	1.10	1.36	1.79	2.20
Nov	.35	.51	.76	.99	1.23	1.48	1.76	2.10	2.55	3.26	3.94
Dec	.16	.35	.62	.86	1.11	1.38	1.68	2.05	2.53	3.32	4.08
Ann	9.18	10.05	11.18	12.04	12.82	13.57	14.35	15.22	16.28	17.83	19.18

\+ 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	3.0	2.0	3	#	8.0	1977	3	10.5	1977	14	1989	6	13	1989	1.7	1.4	.6	.4	.0	-9.9	-9.9	-9.9	-9.9
Feb	1.0	.0	1	0	6.0	1985	20	6.0	1985	14	1979	4	13	1979	.7	.6	.1	.1	.0	.0	.0	.0	.0
Mar	.2	.0	#	0	2.0	1976	1	2.0	1976	1	1993	5	#+	1997	.2	.1	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1986	23	#	1986	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	#	1991	29	#	1991	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	.0	#	0	8.0	1985	29	8.0	1985	6	1977	22	2	1994	.6	.5	.2	.2	.0	.7	.2	.1	.0
Dec	3.3	.3	1	#	10.0	1985	2	16.0	1985	9	1981	31	3	1994	1.3	1.1	.6	.2	.1	-9.9	-9.9	-9.9	-9.9
Ann	8.1	2.3	N/A	N/A	10.0	Dec 1985	2	16.0	Dec 1985	14+	Jan 1989	6	13+	Jan 1989	4.5	3.7	1.5	.9	.1	-9.9	-9.9	-9.9	-9.9

+ 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	6/17	6/10	6/05	5/31	5/27	5/23	5/19	5/14	5/07
32	5/25	5/18	5/14	5/10	5/06	5/02	4/28	4/23	4/17
28	5/07	4/29	4/24	4/19	4/14	4/10	4/05	3/31	3/23
24	4/18	4/09	4/03	3/28	3/23	3/18	3/12	3/05	2/24
20	3/25	3/15	3/08	3/03	2/25	2/20	2/14	2/07	1/29
16	2/28	2/20	2/14	2/09	2/04	1/30	1/25	1/19	1/09

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	9/09	9/14	9/17	9/20	9/23	9/26	9/29	10/02	10/07
32	9/22	9/27	10/01	10/05	10/08	10/11	10/14	10/18	10/24
28	10/04	10/10	10/15	10/19	10/23	10/27	10/31	11/04	11/11
24	10/18	10/23	10/27	10/31	11/03	11/06	11/09	11/13	11/18
20	10/26	11/03	11/09	11/14	11/19	11/23	11/28	12/04	12/12
16	11/11	11/19	11/24	11/29	12/04	12/09	12/15	12/21	1/03

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	144	135	129	123	118	113	107	101	92
32	184	174	167	160	154	148	142	135	125
28	222	211	203	197	191	185	178	170	160
24	253	243	236	230	224	218	212	205	195
20	306	292	282	273	266	258	249	239	226
16	350	330	319	310	302	294	286	277	264

***** 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	1090	801	653	435	220	80	16	16	123	390	764	1058	5646
60	935	661	498	295	113	29	3	3	54	246	614	903	4354
57	842	581	405	220	67	14	1	1	28	171	527	810	3667
55	783	529	346	176	44	8	0	0	17	128	472	749	3252
50	640	400	209	89	12	0	0	0	3	52	337	606	2348
32	219	86	5	0	0	0	0	0	0	0	48	188	546

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	208	375	557	825	1043	1301	1267	947	635	274	153	7737
55	3	8	4	43	156	361	588	554	273	51	8	0	2049
57	0	4	1	27	117	307	526	492	225	32	3	0	1734
60	0	0	0	13	70	232	436	401	161	13	0	0	1326
65	0	0	0	2	22	133	294	259	80	2	0	0	792
70	0	0	0	0	4	63	174	142	31	0	0	0	414

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	15	54	158	321	570	789	1035	1003	688	383	86	22	15	69	227	548	1118	1907	2942	3945	4633	5016	5102	5124
45	0	12	65	191	417	639	880	848	538	243	32	3	0	12	77	268	685	1324	2204	3052	3590	3833	3865	3868
50	0	1	18	96	273	489	725	693	393	127	7	0	0	1	19	115	388	877	1602	2295	2688	2815	2822	2822
55	0	0	1	43	158	344	570	538	258	53	0	0	0	0	1	44	202	546	1116	1654	1912	1965	1965	1965
60	0	0	0	14	75	212	416	386	145	17	0	0	0	0	0	14	89	301	717	1103	1248	1265	1265	1265
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	2	29	112	218	369	495	637	621	449	263	50	6	2	31	143	361	730	1225	1862	2483	2932	3195	3245	3251

(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