## 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

COOP ID: 487810

Lon: 104°54W

**Station: ROCHELLE 3 E, WY** 

Climate Division: WY 7 NWS Call Sign:

	Jointh Max         Daily Max         Mean Min         Highest Daily(2)         Year Day         Month(1) Mean         Year Daily(2)         Year Day         Month(1) Mean         Year Day         Month(1) Mean         Year Mean         Heating Mean         Cooling Service         >=															,					
	Mea	<b>n</b> (1)						Extr	emes						•		Mean	Numb	er of I	Days (3)	)
Month			Mean		Year	Day	Month(1)	Year	Vear Vear		Day	Month(1)	Year	Heating	Cooling	>=	>=	>=	<=	<=	Min <= 0
Jan	32.7	4.9	18.8	65	1953	12	29.4	1981	-45	1963	19	1.7	1979	1432	0	.0	.0	2.8	13.5	30.7	10.3
Feb	38.7	10.2	24.5	70+	1988	27	35.3	1999	-39	1994	9	8.2	1989	1135	0	.0	.0	4.9	7.7	27.8	5.6
Mar	47.8	18.9	33.4	80	1986	29	41.1	1986	-32	1960	3	26.0	1996	980	0	.0	.0	13.8	3.1	28.3	1.9
Apr	57.3	27.1	42.2	91	1992	30	48.2	1981	-14	1975	2	36.8	1997	683	0	.0	.1	21.6	.4	21.1	.1
May	68.5	37.0	52.8	98	1969	27	58.1	1987	6	1954	3	46.7	1996	386	6	.0	.2	29.5	.0	6.5	.0
Jun	80.6	46.4	63.5	105+	1988	24	70.6	1988	27	1951	2	57.2	1993	121	76	.3	4.8	29.9	.0	.6	.0
Jul	89.0	53.2	71.1	107+	1989	8	75.3	1974	31	1972	3	63.6	1992	20	209	2.3	14.2	31.0	.0	.1	.0
Aug	87.3	51.0	69.2	105+	2001	6	76.7	1983	29	1964	25	63.3	1992	53	182	.8	12.1	31.0	.0	.1	.0
Sep	76.4	38.1	57.3	103	1981	9	64.6	1990	9	1961	30	52.2	1993	264	30	.2	2.8	29.2	@	6.5	.0
Oct	64.1	26.7	45.4	92	1956	2	50.6	1979	-11	1991	31	42.0	1984	607	0	.0	.1	27.8	.3	21.8	.2
Nov	44.2	16.2	30.2	79	1999	12	41.0	1999	-31	1959	14	14.0	1985	1045	0	.0	.0	11.5	5.3	28.5	3.0
Dec	33.9	6.0	20.0	65	1999	1	29.3	1999	-47+	1990	22	2.1	1983	1397	0	.0	.0	3.0	12.6	30.6	9.0
Ann	60.0	28.0	44.0	107+	Jul 1989	8	76.7	Aug 1983	-47+	Dec 1990	22	1.7	Jan 1979	8123	503	3.6	34.3	236.0	42.9	202.6	30.1

<sup>+</sup> Also occurred on an earlier date(s)

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004 077-A

Elevation: 4,496 Feet Lat: 43°36N

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>(1)</sup> From the 1971-2000 Monthly Normals

<sup>(2)</sup> Derived from station's available digital record: 1948-2001

<sup>(3)</sup> Derived from 1971-2000 serially complete daily data

# 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: ROCHELLE 3 E, WY

COOP ID: 487810

Climate Division: WY 7 NWS Call Sign: Elevation: 4,496 Feet Lat: 43°36N Lon: 104°54W

										Pı	recipi	tation	(incl	nes)										
		ans/	P	recip	itatio	on Total  Extremes					ean N of D	ays (3	)	Proba		M	nonthly/ onthly/Ar	annual j indic	precipita ated am	babilit ation will nount vs Probal	ll be equ	els		ın the
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	.27	.26	.32	1951	20	.75	1972	.00	1989	4.7	1.1	.0	.0	.02	.05	.09	.13	.17	.22	.27	.33	.41	.54	.67
Feb	.37	.25	.55	1991	17	1.08	1987	.00	1983	4.3	1.4	@	.0	.02	.06	.12	.17	.23	.29	.36	.45	.58	.78	.97
Mar	.75	.68	1.24	1990	6	1.96	1992	.02	1974	5.8	2.7	.2	@	.13	.20	.31	.41	.51	.63	.76	.91	1.12	1.45	1.77
Apr	1.70	1.86	1.63	1971	20	3.56	1971	.10	1987	8.2	4.7	.9	.1	.40	.56	.81	1.03	1.25	1.48	1.75	2.06	2.46	3.11	3.72
May	2.56	2.32	2.06	1976	29	5.87	1971	.62	1973	9.4	6.2	1.6	.5	.64	.88	1.25	1.58	1.91	2.25	2.64	3.09	3.69	4.63	5.51
Jun	1.95	1.52	2.25	1999	10	5.77	1999	.20	1988	7.5	4.7	1.2	.3	.28	.44	.73	1.00	1.28	1.59	1.94	2.38	2.97	3.93	4.85
Jul	1.85	1.66	2.30	1997	27	5.52	1997	.28	1996	6.4	4.5	1.1	.3	.35	.52	.79	1.04	1.30	1.57	1.88	2.26	2.76	3.56	4.32
Aug	1.19	1.07	2.37	1968	8	2.89	1980	.00	1971	5.0	3.0	.7	.2	.09	.22	.41	.58	.76	.96	1.19	1.47	1.84	2.46	3.05
Sep	1.00	.64	1.55	1963	1	4.21	1973	.00	1991	4.4	2.9	.5	.1	.03	.10	.24	.38	.54	.72	.95	1.23	1.61	2.27	2.91
Oct	1.04	.76	1.50	1998	17	4.59	1998	.13	1999	4.7	3.0	.6	.1	.12	.20	.35	.50	.65	.82	1.02	1.27	1.61	2.17	2.71
Nov	.59	.46	1.02	2000	1	1.46	2000	.08+	1995	4.7	2.1	.1	@	.10	.15	.23	.31	.39	.49	.59	.72	.88	1.16	1.42
Dec	.37	.30	.51+	1980	1	.90	1972	.01	1991	4.9	1.5	@	.0	.04	.07	.12	.18	.23	.29	.37	.46	.58	.78	.98
Ann	13.64	13.80	2.37	Aug 1968	8	5.87	May 1971	.00+	Sep 1991	70.0	37.8	6.9	1.6	8.21	9.20	10.49	11.50	12.41	13.31	14.24	15.29	16.58	18.49	20.17

<sup>+</sup> Also occurred on an earlier date(s)

Complete documentation available from:

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

<sup>#</sup> Denotes amounts of a trace

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>\*\*</sup> Statistics not computed because less than six years out of thirty had measurable precipitation

<sup>(1)</sup> From the 1971-2000 Monthly Normals

<sup>(2)</sup> Derived from station's available digital record: 1948-2001

<sup>(3)</sup> Derived from 1971-2000 serially complete daily data

## 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

**COOP ID: 487810** 

**Station: ROCHELLE 3 E, WY** 

Climate Division: WY 7 NWS Call Sign: Elevation: 4,496 Feet Lat: 43°36N Lon: 104°54W

		Median     Mean     Median     Snow Fall     Snow Depth     Snow Depth																					
						Sno	ow To	tals									Mea	n Nu	mber	of Day	<b>ys</b> (1)		
	Mean	s/Medi	ians (1)	)					Extre	mes (2)							ow Fa					Depth esholo	
Month	Snow Fall Mean	Fall	Depth	Depth	Daily Snow	Year	Day	Monthly Snow	Year	Daily Snow	Year	Day	Monthly Mean Snow	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	5.0	4.0	2	2	4.0	1972	27	14.0	1972	8	1984	2	6	1979	3.6	2.6	.5	.0	.0	17.1	8.8	3.8	.0
Feb	6.2	5.0	1	1	8.0	1990	13	17.0	1987	9	1990	15	5	1979	3.4	2.9	.7	.1	.0	12.3	6.4	1.7	.0
Mar	6.8	5.0	1	1	8.0	1990	6	18.1	1998	8+	1998	7	3	1998	3.5	3.1	.8	.2	.0	9.6	3.1	.6	.0
Apr	6.0	6.0	#	#	6.0	1975	7	19.5	1984	11	1984	27	2	1975	2.7	2.5	.8	.2	.0	3.1	.9	.3	@
May	.8	.0	#	0	6.0	1978	7	6.0	1978	4	1984	3	1	1984	.3	.3	.1	@	.0	.5	.3	.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	.4	.0	#	0	4.0	2000	23	6.0	2000	5	2000	23	#+	2000	.2	.2	@	.0	.0	.1	@	@	.0
Oct	2.8	2.0	#	#	10.0	1993	9	16.0	1995	10	1971	29	1	1995	1.1	1.0	.4	.2	@	1.4	.4	.2	@
Nov	6.4	6.0	1	1	9.0	1986	7	18.0	1985	11	1985	30	5	1985	3.2	3.0	.8	.3	.0	8.1	4.2	2.2	.1
Dec	6.7	5.0	2	1	12.0	1980	1	16.0	1982	12	1980	2	8	1983	4.0	3.1	.8	.1	@	16.7	8.9	5.1	.4
Ann	41.1	33.0	N/A	N/A	12.0	Dec 1980	1	19.5	Apr 1984	12	Dec 1980	2	8	Dec 1983	22.0	18.7	4.9	1.1	@	68.9	33.0	13.9	.5

<sup>+</sup> Also occurred on an earlier date(s) #Denotes trace amounts

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>-9/-9.9</sup> represents missing values Annual statistics for Mean/Median snow depths are not appropriate

<sup>(1)</sup> Derived from Snow Climatology and 1971-2000 daily data

<sup>(2)</sup> Derived from 1971-2000 daily data

### 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

**COOP ID: 487810** 

Lon: 104°54W

Lat: 43°36N

**Station: ROCHELLE 3 E, WY** 

**Climate Division: WY 7** 

**NWS Call Sign:** 

				Freez	ze Data								
			Spri	ng Freeze D	ates (Month/	(Day)							
Freeze Data													
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90				
36	7/03	6/26	6/21	6/16	6/12	6/07	6/03	5/29	5/21				
32	6/22	6/15	6/09	6/05	6/01	5/28	5/23	5/18	5/11				
28	5/24	5/19	5/16	5/13	5/11	5/08	5/06	5/03	4/28				
24	5/14	5/09	5/06	5/04	5/01	4/29	4/26	4/23	4/18				
20	5/06	5/01	4/28	4/25	4/23	4/20	4/17	4/14	4/09				
16	4/25	4/20	4/17	4/14	4/11	4/08	4/05	4/02	3/28				
•			Fal	l Freeze Da	tes (Month/D	ay)			1				
To (E)		Pro	bability of ea	arlier date i	n fall (beginn	ing Aug 1) t	han indicate	d(*)					
remp (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90				
36	8/19	8/25	8/29	9/02	9/06	9/09	9/13	9/17	9/23				
32	9/03	9/07	9/09	9/12	9/14	9/16	9/18	9/21	9/25				
28	9/08	9/12	9/15	9/17	9/20	9/22	9/24	9/27	10/01				
24	9/11	9/17	9/21	9/25	9/29	10/02	10/06	10/11	10/17				
20	9/20	9/26	10/01	10/05	10/08	10/12	10/16	10/20	10/26				
16	10/03	10/09	10/13	10/17	10/20	10/24	10/28	11/01	11/07				
<u> </u>				Freeze F	ree Period	J	J	J	1				
Town (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)						
remb (r)	.10	.20	.30	.40	.50	.60	.70	.80	.90				
36	112	103	96	90	85	80	74	68	58				
32	128	120	114	109	104	100	95	89	81				
28	150	144	139	135	131	127	123	119	112				
24	175	167	160	155	150	145	140	133	125				
20	190	182	177	172	168	163	159	153	146				
16	213	206	200	196	191	187	183	177	170				

<sup>\*</sup> 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:

Elevation: 4,496 Feet

# 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

**COOP ID: 487810** 

**Station: ROCHELLE 3 E, WY** 

Climate Division: WY 7 NWS Call Sign: Elevation: 4,496 Feet Lat: 43°36N Lon: 104°54W

				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1432	1135	980	683	386	121	20	53	264	607	1045	1397	8123
60	1277	995	825	533	250	53	3	19	156	452	895	1242	6700
57	1184	911	732	446	180	28	0	8	105	361	805	1149	5909
55	1122	855	670	388	140	17	0	5	77	301	745	1087	5407
50	967	719	515	255	64	4	0	1	28	169	605	932	4259
32	468	290	94	11	0	0	0	0	0	4	195	430	1492

Base	Cooling Degree Days (1)           Jan         Feb         Mar         Apr         May         Jun         Jul         Aug         Sep         Oct         Nov         Dec         Ann           59         79         137         317         643         945         1212         1152         757         420         140         56         5917           0         0         0         5         70         272         499         444         143         4         0         0         1437														
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
32	59	79	137	317	643	945	1212	1152	757	420	140	56	5917		
55	0	0	0	5	70	272	499	444	143	4	0	0	1437		
57	0	0	0	2	48	223	437	385	111	2	0	0	1208		
60	0	0	0	0	25	158	347	303	73	0	0	0	906		
65	0	0	0	0	6	76	209	182	30	0	0	0	503		
70	0	0	0	0	1	27	104	93	10	0	0	0	235		

										Gro	wing	Degre	e Uni	ts (2)										
Base					Growing	g Degree	Units (N	(Ionthly)					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	1	7	43	153	409	709	973	920	550	233	31	2	1	8	51	204	613	1322	2295	3215	3765	3998	4029	4031
45	0	1	14	72	266	559	818	765	405	123	7	0	0	1	15	87	353	912	1730	2495	2900	3023	3030	3030
50	0 0 0 24 145 410 663 611 270 45 0											0	0	0	0	24	169	579	1242	1853	2123	2168	2168	2168
55	0	0	0	10	64	272	509	456	155	8	0	0	0	0	0	10	74	346	855	1311	1466	1474	1474	1474
60	0	0	0	1	15	153	355	306	76	1	0	0	0	0	0	1	16	169	524	830	906	907	907	907
Base	Growing Degree Units for Corn (Monthly)														Gr	owing D	egree Ur	its for C	orn (Acc	umulate	d Month	ly)		
50/86	<b>0/86</b> 0 11 54 141 286 457 609 587 401 238 44											3	0	11	65	206	492	949	1558	2145	2546	2784	2828	2831

(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

#### 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

- c. Snow Tables
  - 1. Snow Climatology
  - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

### 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