

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: ROCK SPRINGS AP, WY

1971-2000

COOP ID: 487845

Climate Division: WY 3

NWS Call Sign: RKS

Elevation: 6,741 Feet Lat: 41° 36N

Lon: 109° 04W

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	27.3	10.7	19.0	55	1969	7	26.2	1999	-37	1963	12	4.0	1979	1425	0	.0	.0	.2	18.2	30.7	5.2
Feb	31.6	13.8	22.7	60	1977	20	30.1	1995	-29	1989	7	10.2	1989	1184	0	.0	.0	1.4	11.9	27.7	3.3
Mar	40.9	22.2	31.6	67+	1989	10	37.6	1986	-12	1969	11	25.7	1977	1038	0	.0	.0	8.5	4.1	28.8	.4
Apr	51.0	28.4	39.7	79	1989	20	47.2	1992	2	1975	2	33.3	1975	759	0	.0	.0	19.0	.9	21.0	.0
May	61.7	36.8	49.3	87	1969	26	55.3	1994	14	1967	1	43.4	1995	490	1	.0	.0	28.1	.0	7.7	.0
Jun	73.6	45.6	59.6	96	1954	23	66.3	1977	26+	1951	3	53.1	1998	202	41	.0	.9	29.7	.0	.7	.0
Jul	81.5	52.1	66.8	96+	2001	4	70.6	1988	35+	1972	4	60.9	1993	49	105	.0	3.1	31.0	.0	.0	.0
Aug	79.9	50.5	65.2	95	1969	10	69.4	2000	33	1962	31	62.1	1993	71	76	.0	1.2	31.0	.0	.0	.0
Sep	68.6	41.2	54.9	89+	1995	4	60.5	1990	5	1965	18	49.8	1985	310	7	.0	.0	28.7	.1	4.0	.0
Oct	55.6	31.4	43.5	79	1957	1	50.3	1988	3	1991	30	37.2	1984	668	0	.0	.0	23.9	1.0	16.8	.0
Nov	38.3	19.3	28.8	66	1977	4	38.3	1999	-13+	1979	30	21.4	2000	1086	0	.0	.0	6.6	8.5	27.8	1.2
Dec	29.0	11.4	20.2	57+	1995	1	30.1	1980	-29+	1990	22	11.0	1978	1388	0	.0	.0	1.0	17.2	30.5	4.3
Ann	53.3	30.3	41.8	96+	Jul 2001	4	70.6	Jul 1988	-37	Jan 1963	12	4.0	Jan 1979	8670	230	.0	5.2	209.1	61.9	195.7	14.4

+ 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/normal/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

078-A

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COOP ID: 487845

Climate Division: WY 3

NWS Call Sign: RKS

Elevation: 6,741 Feet Lat: 41°36N

Lon: 109°04W

Precipitation (inches)

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	.61	.49	.83	1996	17	1.54	1978	.04	1986	7.1	2.1	.1	.0	.10	.16	.25	.33	.42	.51	.62	.75	.92	1.20	1.47
Feb	.52	.44	.59	2001	7	1.23	1978	.02	1977	5.5	1.9	.2	.0	.06	.10	.17	.25	.32	.41	.51	.63	.80	1.08	1.35
Mar	.78	.68	1.66	1962	7	1.97	1977	.22	1976	7.2	2.4	.1	.0	.27	.34	.45	.54	.63	.72	.82	.93	1.08	1.31	1.52
Apr	1.02	.81	1.96	1971	20	2.74	1999	.04	1987	7.9	2.9	.3	@	.10	.17	.31	.45	.61	.78	.98	1.24	1.59	2.18	2.75
May	1.36	.93	1.71	1971	30	3.67	1995	.00	1974	8.8	4.2	.6	.1	.06	.18	.39	.59	.80	1.04	1.32	1.68	2.16	2.96	3.73
Jun	.68	.70	1.64	1970	11	1.76	1993	.03	1977	5.7	2.2	.2	.0	.07	.13	.22	.31	.41	.53	.66	.83	1.05	1.42	1.78
Jul	.93	.76	1.42	1991	24	3.67	1973	.04	2000	5.3	2.0	.5	.2	.10	.17	.30	.42	.56	.72	.90	1.13	1.44	1.95	2.46
Aug	.58	.54	.96	1963	8	1.66	1997	.04	1985	6.2	2.2	.2	.0	.07	.12	.20	.28	.36	.46	.57	.71	.89	1.20	1.49
Sep	.87	.69	2.00	1973	11	3.58	1973	.02	1974	6.1	2.5	.3	.1	.07	.13	.24	.36	.50	.65	.83	1.06	1.37	1.90	2.43
Oct	.87	.81	.96	1994	3	2.34	1994	.00	1988	6.1	2.6	.2	.0	.06	.15	.29	.42	.55	.70	.87	1.08	1.36	1.82	2.26
Nov	.63	.53	.89	1978	11	1.60	1983	.00+	1976	5.9	2.1	.1	.0	.00	.06	.17	.27	.37	.49	.62	.78	1.01	1.37	1.73
Dec	.61	.41	.94	1975	12	1.78	1975	.12	1974	5.3	1.9	.2	.0	.10	.15	.24	.32	.41	.50	.61	.74	.92	1.20	1.48
Ann	9.46	9.12	2.00	Sep 1973	11	3.67+	May 1995	.00+	Oct 1988	77.1	29.0	3.0	.4	5.55	6.25	7.17	7.90	8.55	9.20	9.88	10.64	11.57	12.96	14.19

+ 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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COOP ID: 487845

Climate Division: **WY 3**

NWS Call Sign: **RKS**

Elevation: **6,741 Feet**

Lat: **41°36N**

Lon: **109°04W**

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	7.1	5.6	3	3	10.5	1996	17	20.5	1997	17	1997	13	11	1984	7.0	2.6	.5	.2	.1	22.7	14.2	8.7	2.9
Feb	5.3	4.6	3	3	6.1	2000	17	14.4	1995	15	1980	1	8+	1993	4.9	2.0	.4	.2	.0	16.8	9.9	6.2	1.3
Mar	7.2	6.6	1	1	13.1	1988	10	19.8	1977	15+	1988	12	3	1988	5.6	2.5	.6	.2	@	8.1	2.7	1.1	.3
Apr	7.0	5.6	#	1	9.5	1986	17	21.5	1999	8+	1993	20	1+	1999	4.8	2.1	.6	.3	.0	2.4	1.0	.4	.0
May	2.5	.8	#	0	8.0	1975	20	12.0	1978	5	1978	7	#	2000	1.5	.9	.2	.1	.0	.5	.1	@	.0
Jun	.2	.0	#	0	2.2	1995	8	2.3	1995	1	1974	8	#	2000	.2	.1	.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	.8	.0	#	0	7.7	2000	22	12.8	2000	10	2000	24	1	2000	.4	.2	.1	.1	.0	.2	.1	.1	@
Oct	4.6	3.4	#	0	8.0	1971	28	18.8	1971	13	1971	29	1+	1996	2.5	1.5	.6	.1	.0	1.3	.6	.4	.1
Nov	6.2	4.1	1	1	10.0	1978	11	22.1	1978	10	1978	12	4+	1978	5.1	2.1	.7	.1	@	8.5	3.8	1.6	@
Dec	6.7	5.5	2	1	9.4	1975	12	19.4	1975	15+	1983	26	12	1983	5.4	2.4	.5	.2	.0	16.6	10.3	5.8	1.2
Ann	47.6	36.2	N/A	N/A	13.1	Mar 1988	10	22.1	Nov 1978	17	Jan 1997	13	12	Dec 1983	37.4	16.4	4.2	1.5	.1	77.1	42.7	24.3	5.8

+ 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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COOP ID: 487845

Climate Division: WY 3

NWS Call Sign: RKS

Elevation: 6,741 Feet

Lat: 41°36N

Lon: 109°04W

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	6/24	6/19	6/16	6/13	6/10	6/07	6/04	5/31	5/26
32	6/13	6/08	6/04	6/01	5/28	5/25	5/22	5/18	5/12
28	5/29	5/23	5/19	5/15	5/12	5/08	5/05	5/01	4/25
24	5/09	5/05	5/02	4/29	4/26	4/24	4/21	4/18	4/13
20	5/01	4/25	4/21	4/18	4/15	4/11	4/08	4/04	3/29
16	4/22	4/14	4/08	4/03	3/30	3/25	3/20	3/14	3/06
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	8/29	9/03	9/06	9/09	9/12	9/15	9/18	9/21	9/26
32	9/09	9/12	9/15	9/17	9/19	9/21	9/23	9/26	9/30
28	9/13	9/18	9/22	9/25	9/28	10/01	10/05	10/08	10/13
24	9/23	9/29	10/04	10/07	10/11	10/14	10/18	10/22	10/28
20	10/04	10/10	10/15	10/19	10/23	10/27	10/31	11/05	11/11
16	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/11	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	117	109	103	98	94	89	84	78	70
32	134	127	122	117	113	109	104	99	92
28	163	155	149	144	139	134	129	122	114
24	189	182	176	171	167	162	158	152	144
20	216	207	201	196	191	186	181	174	166
16	243	234	227	221	216	210	205	198	188

* 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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Climate Division: WY 3

NWS Call Sign: RKS

Elevation: 6,741 Feet Lat: 41°36N

Lon: 109°04W

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	1425	1184	1038	759	490	202	49	71	310	668	1086	1388	8670
60	1270	1044	883	609	343	110	11	20	184	514	936	1233	7157
57	1177	960	790	523	262	69	3	7	124	423	846	1140	6324
55	1115	904	728	466	213	48	1	3	90	364	786	1078	5796
50	960	764	573	331	113	16	0	0	34	232	637	923	4583
32	433	299	121	36	1	0	0	0	0	11	187	397	1485

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	31	39	106	267	535	829	1078	1029	687	366	91	32	5090
55	0	0	0	7	34	187	367	319	88	6	0	0	1008
57	0	0	0	4	21	148	307	260	61	3	0	0	804
60	0	0	0	0	8	99	222	180	32	1	0	0	542
65	0	0	0	0	1	41	105	76	7	0	0	0	230
70	0	0	0	0	0	12	32	19	1	0	0	0	64

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	0	25	129	341	624	867	817	491	201	22	0	0	0	25	154	495	1119	1986	2803	3294	3495	3517	3517
45	0	0	1	56	210	475	712	662	354	105	4	0	0	0	1	57	267	742	1454	2116	2470	2575	2579	2579
50	0	0	0	21	107	334	557	507	221	37	0	0	0	0	0	21	128	462	1019	1526	1747	1784	1784	1784
55	0	0	0	3	43	208	402	354	118	10	0	0	0	0	0	3	46	254	656	1010	1128	1138	1138	1138
60	0	0	0	0	4	105	253	210	40	0	0	0	0	0	0	0	4	109	362	572	612	612	612	612
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	26	103	224	396	561	522	319	150	18	0	0	0	26	129	353	749	1310	1832	2151	2301	2319	2319

(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