

Climatology of the United States

No. 20

1971-2000

Station: RICHMOND, UT

COOP ID: 427271

Climate Division: UT 3

NWS Call Sign:

Elevation: 4,680 Feet Lat: 41° 54N

Lon: 111° 49W

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	32.4	14.7	23.6	55+	1953	25	32.0	1994	-23	1984	18	13.3	1979	1284	0	.0	.0	.4	14.1	29.9	5.4
Feb	39.0	18.3	28.7	66	1963	5	37.6	1995	-27	1985	1	16.5	1985	1018	0	.0	.0	3.2	7.2	26.3	2.9
Mar	50.1	26.7	38.4	76	1966	31	45.2	1992	-7	1966	4	26.6	1976	825	0	.0	.0	14.9	1.0	24.6	.3
Apr	60.2	32.9	46.6	89	1987	27	52.9	1987	12+	1955	5	40.6	1975	554	0	.0	.0	24.8	.0	15.2	.0
May	70.0	39.6	54.8	89+	1954	20	59.8	1994	20+	1967	1	49.4	1975	324	7	.0	.0	29.9	.0	4.7	.0
Jun	81.5	46.8	64.2	101	1988	24	70.3	1988	29+	1951	2	58.3	1998	112	85	@	5.3	30.0	.0	.3	.0
Jul	90.8	52.9	71.9	105	2000	30	76.1	1988	36+	1954	22	63.3	1993	17	228	1.0	19.4	31.0	.0	.0	.0
Aug	89.4	52.6	71.0	104	2000	1	75.1	2000	31	1965	31	66.6	1975	16	201	.6	16.2	31.0	.0	.0	.0
Sep	78.2	44.0	61.1	99	1978	3	68.3	1990	20	1965	18	54.8	1971	172	56	.0	2.7	29.8	.0	2.2	.0
Oct	63.7	34.5	49.1	88	1992	1	57.4	1988	7	1971	30	42.9	1971	493	1	.0	.0	27.4	.1	11.5	.0
Nov	45.6	25.0	35.3	72	1999	6	43.0	1999	-20	1955	16	29.0+	2000	891	0	.0	.0	10.1	3.0	25.1	.5
Dec	33.8	15.9	24.9	67	1995	1	33.2	1977	-28	1990	23	14.7	1990	1245	0	.0	.0	1.5	13.2	29.2	3.0
Ann	61.2	33.7	47.5	105	Jul 2000	30	76.1	Jul 1988	-28	Dec 1990	23	13.3	Jan 1979	6951	578	1.6	43.6	234.0	38.6	169.0	12.1

+ 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

088-A

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1928-2001

(3) 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: RICHMOND, UT

COOP ID: 427271

Climate Division: UT 3

NWS Call Sign:

Elevation: 4,680 Feet Lat: 41°54N

Lon: 111°49W

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	1.69	1.53	1.36	1980	14	4.18	1980	.55	1985	11.1	5.3	.6	.1	.52	.68	.92	1.12	1.32	1.53	1.75	2.02	2.36	2.89	3.39
Feb	1.67	1.66	1.62	1986	17	3.88	1986	.15	1988	9.9	5.2	.7	.1	.39	.54	.79	1.01	1.22	1.46	1.72	2.03	2.43	3.08	3.69
Mar	2.19	1.99	1.23	1994	22	5.00	1982	.77	1997	10.9	6.4	1.0	.1	.84	1.04	1.34	1.58	1.81	2.04	2.30	2.59	2.96	3.54	4.06
Apr	2.22	2.19	1.54	1957	23	5.81	1986	.48	1992	10.7	6.1	1.2	.1	.56	.77	1.10	1.38	1.66	1.96	2.29	2.69	3.20	4.02	4.78
May	2.61	2.19	1.55	1948	8	5.69	1980	.12	1972	11.9	6.5	1.7	.2	.58	.82	1.20	1.55	1.89	2.26	2.67	3.16	3.81	4.85	5.82
Jun	1.29	1.20	2.37	1964	7	3.50	1980	.11	1977	6.3	3.2	.7	.1	.12	.21	.38	.56	.76	.98	1.24	1.57	2.02	2.78	3.51
Jul	.96	.66	1.67	1997	12	2.94	1983	.00	1988	4.9	2.2	.5	.1	.02	.09	.21	.34	.50	.67	.89	1.16	1.54	2.19	2.83
Aug	1.06	.82	3.26	1977	18	4.62	1977	.01	1985	5.5	2.4	.4	.2	.07	.14	.27	.41	.58	.77	.99	1.28	1.69	2.37	3.05
Sep	1.47	1.08	2.27	1982	26	5.41	1982	.02	1974	6.2	3.4	.9	.2	.09	.17	.35	.55	.78	1.04	1.36	1.77	2.35	3.32	4.29
Oct	2.04	1.94	1.80	1968	15	5.03	1981	.00+	1988	7.2	4.6	1.3	.4	.00	.42	.84	1.16	1.47	1.79	2.14	2.54	3.09	3.95	4.75
Nov	1.61	1.43	1.56	1945	7	3.89	1983	.01	1976	10.4	5.2	.5	@	.25	.38	.62	.84	1.07	1.32	1.61	1.96	2.44	3.21	3.95
Dec	1.58	1.45	1.29	1941	4	5.87	1983	.05	1976	10.0	5.3	.7	@	.26	.40	.63	.85	1.07	1.31	1.59	1.93	2.38	3.12	3.82
Ann	20.39	19.86	3.26	Aug 1977	18	5.87	Dec 1983	.00+	Oct 1988	105.0	55.8	10.2	1.6	12.40	13.85	15.76	17.25	18.59	19.90	21.28	22.81	24.71	27.50	29.95

+ 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: 1928-2001

(3) Derived from 1971-2000 serially complete daily data

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

Climatography of the United States

No. 20 1971-2000

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151 Patton Avenue
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Station: RICHMOND, UT

COOP ID: 427271

Climate Division: UT 3

NWS Call Sign:

Elevation: 4,680 Feet

Lat: 41° 54N

Lon: 111° 49W

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	13.3	14.5	7	6	12.0	1997	23	23.0+	1997	24	1984	2	21	1984	5.7	5.4	1.6	.5	@	25.7	22.7	18.9	10.6
Feb	12.4	13.8	6	5	12.0	1995	14	25.0	1999	27	1984	23	23	1984	5.0	4.7	1.8	.7	.1	20.2	16.3	12.8	7.8
Mar	11.4	9.0	2	#	9.0	1980	30	31.0	1980	26	1984	1	19	1985	3.9	3.8	1.6	.6	.0	7.6	5.9	4.4	2.7
Apr	5.1	3.0	#	#	6.0	1976	26	13.0+	1986	10	1985	1	1+	1999	1.8	1.8	.8	.3	.0	.9	.3	.2	@
May	1.1	.0	#	0	6.0	1975	20	8.0	1983	2	1983	11	#+	1999	.4	.4	.1	.1	.0	.1	.0	.0	.0
Jun	.0	.0	0	0	1.0	1995	6	1.0	1995	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	.1	.0	#	0	4.0	1978	18	4.0	1978	#	2000	23	#	2000	@	@	@	.0	.0	.0	.0	.0	.0
Oct	2.2	.0	#	0	6.0	1971	17	19.0	1971	5	1971	31	1	1971	.7	.7	.4	.2	.0	.5	.2	@	.0
Nov	8.9	6.2	1	#	8.0	1975	28	34.0	1985	14	1975	30	5	1985	3.4	3.3	1.6	.3	.0	6.8	3.9	2.1	.3
Dec	14.7	13.5	4	3	14.0	1985	8	58.0	1983	28	1983	27	18	1983	5.2	5.1	2.1	.9	.2	21.1	16.0	11.7	2.6
Ann	69.2	60.0	N/A	N/A	14.0	Dec 1985	8	58.0	Dec 1983	28	Dec 1983	27	23	Feb 1984	26.1	25.2	10.0	3.6	.3	82.9	65.3	50.1	24.0

+ 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

Complete documentation available from:

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Station: RICHMOND, UT

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Climate Division: UT 3

NWS Call Sign:

Elevation: 4,680 Feet

Lat: 41° 54N

Lon: 111° 49W

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	6/20	6/17	6/14	6/12	6/09	6/06	6/03	5/30
32	6/10	6/03	5/30	5/26	5/22	5/18	5/14	5/09	5/03
28	5/16	5/11	5/07	5/04	5/01	4/28	4/24	4/21	4/15
24	5/05	4/28	4/23	4/18	4/14	4/10	4/06	3/31	3/24
20	4/19	4/11	4/05	3/31	3/26	3/21	3/16	3/10	3/02
16	3/31	3/23	3/18	3/13	3/09	3/05	2/28	2/23	2/16
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	9/01	9/07	9/11	9/14	9/17	9/20	9/23	9/27	10/02
32	9/15	9/19	9/22	9/25	9/27	9/29	10/02	10/05	10/09
28	9/23	9/29	10/03	10/06	10/09	10/13	10/16	10/20	10/26
24	10/04	10/10	10/14	10/18	10/21	10/24	10/28	11/01	11/07
20	10/19	10/24	10/28	10/31	11/04	11/07	11/10	11/14	11/19
16	11/01	11/05	11/09	11/11	11/14	11/17	11/20	11/23	11/27
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	118	111	105	101	96	92	88	82	75
32	147	140	135	131	127	123	119	114	108
28	184	176	170	165	161	156	151	145	137
24	219	209	201	195	189	183	177	169	159
20	251	241	234	227	222	216	210	202	192
16	275	266	260	254	249	244	239	232	224

* 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: UT 3 NWS Call Sign: Elevation: 4,680 Feet Lat: 41° 54N Lon: 111° 49W

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	1284	1018	825	554	324	112	17	16	172	493	891	1245	6951
60	1129	878	670	410	194	47	3	2	89	345	741	1090	5598
57	1036	794	580	328	131	24	1	1	54	264	651	997	4861
55	974	738	522	276	96	14	0	0	37	215	592	935	4399
50	821	603	382	167	36	2	0	0	11	113	450	780	3365
32	338	199	61	5	0	0	0	0	0	1	86	285	975

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	77	105	259	441	706	963	1234	1208	874	532	185	63	6647
55	0	0	8	22	89	287	521	495	220	32	1	0	1675
57	0	0	3	14	61	237	460	433	178	20	0	0	1406
60	0	0	0	6	31	170	369	342	123	8	0	0	1049
65	0	0	0	0	7	85	228	201	56	1	0	0	578
70	0	0	0	0	1	32	115	90	19	0	0	0	257

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	7	68	214	459	722	992	965	640	304	47	3	0	7	75	289	748	1470	2462	3427	4067	4371	4418	4421
45	0	0	23	115	313	572	837	810	494	180	12	0	0	0	23	138	451	1023	1860	2670	3164	3344	3356	3356
50	0	0	0	49	185	427	682	655	350	82	0	0	0	0	0	49	234	661	1343	1998	2348	2430	2430	2430
55	0	0	0	16	91	285	528	500	223	29	0	0	0	0	0	16	107	392	920	1420	1643	1672	1672	1672
60	0	0	0	1	30	164	373	347	112	4	0	0	0	0	0	1	31	195	568	915	1027	1031	1031	1031
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	6	62	167	313	465	610	608	428	231	39	0	0	6	68	235	548	1013	1623	2231	2659	2890	2929	2929

(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/normal/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